3.2 Infant and Child Mortality

3.2.1 Age distribution of children < 5

The age distribution of the children in the survey sample was as follows: of the living children, **270 were less than 1 year old** (27%), **and 727 (73%) were one through four years old.** These percentages are identical to last year's age distribution.
Of the children who had died:
- 32% were below one month of age,
- 42% were at least one month, but below one year of age,
- 4% were one year old,
- 5% were two years old,
- 11% were three years old, and
- 5% were four years old.

During 1986, the largest amount of children who died were in the category above one month but less than one year of age. This year, death has left victims in almost all age categories, and especially more infants have died.

3.2.2 Infant Mortality

The **Infant Mortality Rate (IMR)** for the area surveyed was **52 per 1000 live births** (14/270 x 1000). There is a 95% probability that the true IMR was between 25 and 79 per 1000 live births.

When comparing this year's Infant Mortality Rate with the one of 1986, confidence intervals for the IMR's in both years still overlap, thus statistical significance cannot be claimed for the difference in rates. Nevertheless, a considerable drop has occurred and it is pleasing to note that the current rate is not any longer close to the median of "high IMR's" in the world (UNICEF, 1987). The current trend can only be received with enthusiasm and encouragement.

3.2.3 Neonatal Mortality

The **Neonatal Mortality Rate** (infants who died within the first month of their life) was **22 per 1000 live births.** There is 95% certainty that the true NMR was between 5 and 39 per 1000 live births.

The Neonatal Mortality Rate of this year bears less reason for optimism than the IMR. No change can be observed in the mortality trend for infants less than one month of age. Furthermore, the **Neonatal Mortality Rate from Tetanus was 7 per 1000 live births**, and although a decrease is visible, the change since 1986 is not statistically significant.

Overall less children are dying, but more infants below one month died in the past year. In the 1986 report it was mentioned that with an increasing number of live births infants now born become weaker and easier subject to death, with as result a stagnation in Infant Mortality. This year it should again be noted that the absence of change in Neonatal Mortality Rates can be directly related to the exceptionally high fertility among Afghan women (discussed below), and therefore a reduction of maternal antibodies, a weakening of women's health status and an increased possibility of low birth weights; thus of weakened infants.

On the optimistic side, the slight decrease in Neonatal Mortality from Tetanus may indicate a real change is slowly making its way. Educational efforts may have started to leave their traces, as the following anecdote wishes to express:
In Darsamand camp a man of about 30 years listened attentively when his young wife responded to the survey questions addressed to her. He squatted in the corner of their small, one-room house where a number of very old radio's were stacked up, and now and then stopped his attempts to repair one of those radio's. Without interfering much, he would then add details to his wife's story. When she told about her last pregnancy and delivery not too long ago, the man smiled and said: "Some time ago we lost a child because my wife delivered alone and we did not know about giving birth. But this last time I stayed with her, and I cut the cord. I put the knife in the fire before using it because the Community Health Worker told us to do so; he said that is how you can make a knife clean and that then babies do not get sick... Now you look at our healthy baby."

3.2.4 Child Mortality

According to the 1987 survey, **104 (10.4%) of every 1000 children are likely to die before reaching their fifth birthday.** The 95% confidence limits for this rate are 97 and 110. This compares favourably with last year's Child Mortality Rate. However, we would have expected a greater reduction given the change in Infant Mortality. This is in part likely due to an unchanged Neonatal Mortality Rate. And as will be discussed below, a second factor of influence may be the current trends in reproductive health of the Afghan women: an increasing number of live births for every women without sufficient access to services related to pregnancy, childbirth and general Mother and Child Health, or the inability of service provision to keep pace with the rapidly expanding population. The result of such a gap will hinder a further decrease of child deaths. Therefore, continued reduction of both IMR and CMR should not be expected to occur at the same pace as in the first years of refugee exile.

3.2.5 Illness related to Death

Diarrhea continues to take its toll in 1987: of the children who died during the year prior to the survey,

- **52.6% had a history of Diarrhea** in the week preceding death;
- **In 10.5% of the children signs of Neonatal Tetanus were observed;**
- **Measles infection was reported to precede the death of 5.3% of the children;**
- **For 5.3% of the children the cause of death remained unknown.**

Additional specific indicators were given for 15.8% of the children: heart disease for one child, and premature birth for the others. For 10.5% of the children a double cause of death was reported: Half of those children suffered from Diarrhea and Measles at the same time; th other half had Tuberculosis as well Diarrhea.

In children below one year of age, 63% of all deaths were preceded by an episode of Diarrhea.

An overview of possible Ilness related to Death by Age Group as described above, is presented by the following table:

	0-30 days		1-11 months		1-4 years		all ages	
	1986	**1987**	1986	**1987**	1986	**1987**	1986	**1987**
Disease Problem	%	%	%	%	%	%	%	%
Tetanus	60	**33**	0	**0**	0	**0**	11	**11**
Measles	0	**0**	6	**13**	67	**0**	19	**5**
Diarrhea	20	**0**	63	**75**	33	**80**	48	**53**
Malaria	0	**0**	0	**0**	0	**0**	0	**0**
Unknown	20	**33**	31	**12**	0	**0**	22	**16**
Heart disease	-	**0**	-	**0**	-	**20**	-	**5**
Premature	-	**33**	-	**0**	-	**0**	-	**10**
Total	100	100	100	100	100	100	100	100

Diarrhea as one of the main debilitating factors to the Afghan children's health cannot be emphasized enough; Percentagewise, 1987 results indicate an increase of children with episodes of Diarrhea preceding death. In this regard, one should bear in mind the fact that several of the children who suffered from Diarrhea before they died, were also weakened by another disease: Tuberculosis or Measles. One can therefore assume that in 1986 and in 1987 approximately the same amount of children's deaths were directly associated with Diarrhea.

3.3 Nutritional Status of children < 5 years of age

3.3.1 Measurements used for nutritional assessment

One of the most important indicators of child health and nutritional status as revealed by anthropometry, was assessed in 1987 by taking Mid Arm Circumference (MAC) measurements, as well as Weight-for-Height (WfH) scores, from children between 12 and 60 months of age. These measurements were evaluated as percentages of the international WHO/NCHS/CDC medians. Since nutritional surveillance began to establish its importance as valuable method to gain insight in children's health, much debate developed around the various definitions of first, second and third degree malnutrition. Cut-off points to decide whether a child suffered from a less or more severe degree of malnourishment, as well as various methods to measure malnutrition, divided nutritionist's opinions.

In the first, 1986 survey, MAC measurements were used because they are a quick, effective and easy tool for detecting children with various degrees of undernourishment. MAC continues to play an important role in general surveillance and has especially proven to be of benefit to ensure Primary Health Care Workers error on the conservative side when conducting nutritional surveillance.

However, because of a concern regarding the accuracy of MAC measurements, in the 1987 survey back-up assessments were done by means of Weight-for- Height measurements.

Percentages of malnutrition prevalence according to both measurements, compared with the NCHS scale, are summarized below.

3.3.2 Results from Mid Arm Circumference measurements

Mid Arm Circumference measurements in 1987 compare with last year's results as follows:

	1986	1987
Median or above (normal Weight/Height)	87.8%	87.3%
Moderately malnourished	8.0%	10.8%
Severely malnourished	4.2%	1.9%

Although a change for the better seems to have taken place in the year prior to the second survey regarding the category of severely malnourished children, no overall change has occurred.

Results by camp were as follows:

Camp	% Median W/H	% Moderately malnourished	% Severely malnourished	% Total	% Unkn.
Lakhti Banda	84.9	13.2	0	13.2	1.9
Mohammad Khoja	90.0	5.7	1.4	7.1	2.8
Doaba	88.0	5.3	2.7	8.0	4.0
Kata Kanra	88.9	8.9	0	8.9	2.2
Dallan	88.0	8.7	0	8.7	2.8
Thal I	84.8	12.8	2.3	15.1	0
Kahi	75.3	22.2	2.5	24.7	0
Thal II	88.1	4.8	4.8	9.6	2.4
Darsamand	80.5	14.6	1.0	15.6	3.9
Kotki	86.9	6.6	1.6	8.2	4.9
Total	87.3	10.8	1.9	12.7	2.2

When comparing these data with some major outcomes of the 1986 survey:

- **The most striking change has occurred in Mohammad Khoja camp.** In the year preceding the first survey, 12% of the children in this camp had MAC measurements that indicated severe malnutrition; this year's survey gives a percentage of 1.4.
- In **Kotki camp**, which had the lowest percentage of malnourished children last year, **an increase was noted**: 6.6% moderately, and 1.6% severely malnourished children were found against 4% moderately, and 0% severely malnourished children last year.
- **Kahi** continues to stand out as the camp with the **largest percentage of undernourished children**: this year 22.2% of the children had a MAC that indicated moderate malnutrition, and 2.5% that suggested severe malnutrition. In 1986 17% of Kahi camp's children were found to be in a severely malnourished state. Last year's assumption that the critical problem of of water supply in this camp continues to be influential with regard to the contamination-diarrhea-malnutrition cycle, can only be reiterated.

3.3.3 Results from Weight-for-Height measurements

All children 12 through 60 months that were less than 80% of the reference median when assessed by means of Mid Arm Circumference measurements done by the surveyors were then measured again, this time by means of Weight-for-Height measurements, obtained with a Salter weighing scale, and a standardized portable measuring board. These measurements were carried out by the Team Supervisor and consecutively compared to the international reference standard. The results from this way of evaluating nutritional status were rather different than the ones obtained with MAC measurements. MAC measurements include children who according to Weight-for-Height scores are not belonging in any category of malnourishment.

Findings through Weight-for-Height measurements of the children who were measured for a second time, as compared with MAC scores, were:

	Total % children moderately malnourished (less than 80% of median)	Total % children severely malnourished (less than 70% of median)
MAC scores	10.8%	1.9%
W/H scores	1.2%	0.3%

The data above provide the basis for one of the most favourable outcomes of the 1987 survey: the more accurate Weight-for-Height measurements reveal that instead of the 12.2% malnutrition assumed since 1986, **only 1.5% of all children score below the median** referred to when assessing nutritional status.

However, despite the considerable difference between the results of the two methods of measuring, it does have to be noted that part of the children who after second measurements are considered to be within the normal range of growth, are borderline cases of moderate malnourishment:

> **2.9% of the children had scores that were exactly or just about 80% of the reference median.** According to the international standards these children are counted as being within the accepted range of growth, yet they are not growing exceptionally well. If weakened by illness or other factors, they may easily drop from the average healthy growth curve.

Thus, even though malnutrition is rapidly loosing priority as a cause for morbidity and mortality of children below 5 years of age, the number of cases worthy of attention can still not be underestimated; especially because they, more than outspoken cases of undernourishment, run the risk of going unnoticed for too long a period of time.

3.4 Introduction of Weaning Foods

Often the foundation for malnutrition is laid during the time when mother milk does not any longer suffice as main diet ingredient, while the introduction of other, solid foods is delayed by the mother. On the other hand, abrupt and complete weaning without prior supplementation with solids - often practiced when a mother finds herself pregnant - can possibly lead to undernourishment as well.

It has been affirmed by WHO/UNICEF (1981) that complementary feeding before the age of four months has no significant advantages, but that risks of long term morbidity or permanent developmental damage increase with too long a delay of adequate supplementation, i.e. after 4-6 months.

The majority of Afghan mothers are very effective breastfeeders. The prevalence of breastfeeding in the early months of life is nearly 100%. Yet, in the refugee camps the period at which weaning starts, varies greatly. Given the relevance of proper weaning for the health of children as well as mothers, delay of introducing weaning foods was studied like in 1986, by asking women to recall when they first began to give such foods to each of their children.

Although some shifts are apparent within categories of Time to first introduce semi-solid or solid foods, no major change has taken place since 1986:

Time at which weaning was started	1986	1987
4-5 months of age	22%	16%
5-7 months	22%	26%
7-9 months	0.4%	26%
>9 months	13%	18%
Never yet	34%	14%

Overall, it seems **at least 44% of the children get weaned when they are older or much older than 4 months.** the 1986 survey yielded a percentage of 35% of children who get weaned too late. This difference is not likely to be significant, considering natural variation in age categories. Points worthy of notice remain however with regard to future trends:

- The very high pregnancy prevalence in the refugee camps is likely to cause in women a decrease in nutritional value and quantity of breast milk, and therefore abrupt introduction of weaning foods at an earlier age with the concomitant danger of inadequate nutrition.
- A second concern which is related to the first, regards early infection from external food sources when infants do receive weaning foods at a young age. With the observed rapid succession of infants within families, such infection rates will have a good chance to surge.

3.5 Morbidity from Several Childhood Diseases

3.5.1 Prevalence of Diarrhea.

One of the most important outcomes of the 1986 survey was that Diarrhea remained the major threat to Children's health in the camps. Whereas **last year 39.7% of the children below five suffered from episodes of Diarrhea, this year 27.7%** of the children are weakened by this disease.
The change is considerable in all but two, of the camps in the survey sample, as the following table will indicate:

Diarrhea prevalence by camp, in 1986 and 1987.

Camp	1986 %	**1987 %**	% change
Lakhti Banda	34.9	**47.3**	+ 15.1
Mohammad Khoja	35.2	**36.9**	+ 1.2
Doaba	39.1	**27.8**	- 11.3
Kata Kanra	30.1	**15.8**	- 14.3
Dallan	33.6	**26.6**	- 7.0
Thal I	48.5	**33.3**	- 15.2
Kahi	47.4	**33.0**	- 14.4
Thal II	51.1	**28.0**	- 23.1
Darsamand	35.0	**25.9**	- 9.1
Kotki	48.5	**26.2**	- 22.3
Total, all camps	39.7	**27.7**	- **12.0**

It seems that one of the reasons for the general change as observed, may be partly due to IRC's efforts to improve water and sanitation facilities in all camps during 1986 (See "Environmental factors"). Another factor which may have been of influence, is the action mothers take against Diarrhea when their children get affected.
In the 1987 survey mothers were asked what they do in such a case.

3.5.2 Mother's actions against Diarrhea

Results of this part of the survey were as follows:

- 0.2% of all mothers will visit a Mullah and trust their children will be healed through religious rituals.
- 0.3% of the mothers stop giving food and fluids to their children as a remedy against Diarrhea.
- 0.8% of the mothers prepare household concoctions to combat Diarrhea.
- 1.8% of the mothers make homemade Oral Rehydration Solution.
- 3.2% of the mothers said they do not know what to do when their children have Diarrhea.
- 21.3% of all mothers do nothing at all when their children have Diarrhea.
- 54.8% of all mothers give their children NIMKOL (Oral Rehydration Salts) from a package, obtained either in the Basic Health Unit or in the bazars.

These results cannot be compared to others, as in the 1986 survey this question had not been included in the questionnaire. Striking however is the reasonably large percentage of mothers (over 50%) who give their children Oral Rehydration Solution: education within the Basic Health Units, as well as in the various outreach activities have left positive traces. It may also be noted that campwise, Darsamand stood out with the largest number of mothers who use ORS, homemade as well as from a package: In this camp, educational activities on a house to house basis expanded in the spring of 1987 with the activities of 74 newly trained Community Health Workers.

At the same time, attention has to be given to the large percentage of women who do not take action at all when their children have Diarrhea, and an almost equally large percentage of mothers who trust medicines are the best remedy. The unjustifiable appreciation for medicines of the Afghan refugee population is a long known fact among IRC medical and public health staff. But within the context of Diarrhea treatment, the survey findings above may be an additional plea for educational efforts against such strong convictions. In comparison, mothers who do nothing and mothers who do not know what to do when their children have Diarrhea, may be an easier target group for promotion of ORS treatment than the group of mothers convinced of the benefits of medicines; and when effective educational tools are used and practical results are clear, this first group may eventually even serve as a vehicle to convey health messages to fellow mothers who believe in treatment with medicines.

3.5.3 Prevalence of Measles

A comparison by camp of morbidity from Measles between 1986 and 1987 is displayed by the following table:

Prevalence of Measles by camp, 1986 and 1987.

Camp	1986 %	**1987 %**	% change
Lakhti Banda	11.6	**12.2**	+ 0.6
Mohammad Khoja	17.5	**6.5**	+ 11.0
Doaba	7.7	**13.5**	- 5.8
Kata Kanra	6.3	**5.3**	- 1.0
Dallan	20.6	**8.1**	- 11.5
Thal I	17.7	**14.8**	- 2.9
Kahi	19.2	**5.8**	- 13.4
Thal II	17.7	**4.2**	- 13.5
Darsamand	21.5	**6.7**	- 14.8
Kotki	21.1	**8.7**	- 12.4
Total, all camps	15.0	**8.5**	**- 6.5**

In most camps less children are suffering from Measles. In Lakhti Banda however, a slight increase, and in Doaba a large increase of children with a history of Measles in the year preceding the survey, were found.
Overall, the current trend is very positive.

3.6 Vaccination Status of children 12 through 60 months

The vaccination status of all children below five was checked by examining the presence of a BCG scar; and by reviewing the vaccination cards of all children between 12 and 60 months of age. Coverage for the various types of vaccines is described below.

3.6.1 Percentage of children with vaccination records

Of all children, in all camps, 71.5% have a Road-to-Health card on which the vaccination status for all diseases is indicated, or an immunization card. The majority of children had Road-to-Health cards. When the children had immunization records, their mothers would often say they had been obtained during outreach activities. Of the children, 22.1% did not have any records. And with 6.4% of the children it remained unknown whether they had cards, often because the mother claimed the card was lost. Another reason for absence of records described by the mothers was that a card was not received at the Basic Health Unit when she went to have her child vaccinated, because there were too many people waiting.

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The highest percentage of children with vaccination cards was found in Mohammad Khoja camp (80.0%), and the lowest in Dallan (59.3%). The last camp hosts a considerable number of refugees who had just arrived at the time of survey and thus far had been unable to make use of the available medical services.

3.6.2 Vaccination status for BCG (Tuberculosis vaccine), by observation of scars

The following table displays the percentages of children with whom a BCG inocculation scar could be indicated.

Comparison of BCG scar indication by camp, in 1986 and 1987

Camp	1986 %	**1987 %**	% change
Lakhti Banda	78.6	**85.1**	+ 6.5
Mohammad Khoja	60.0	**83.5**	+ 23.5
Doaba	53.6	**70.8**	+ 17.2
Kata Kanra	73.0	**83.9**	+ 10.9
Dallan	56.5	**70.7**	+ 14.2
Thal I	54.8	**77.8**	+ 23.0
Kahi	67.9	**92.3**	+ 24.4
Thal II	82.2	**75.9**	- 6.3
Darsamand	72.6	**79.7**	+ 7.1
Kotki	92.8	**82.5**	- 10.3
Total, all camps	68.7	**79.3**	+ 10.6

Of all live children, in all camps, 79.3% had evidence of a BCG scar, in comparison to 68.7% last year. With 2.5% of the children, a scar could not be clearly indicated.
In all camps the amount of children with BCG scars has increased considerably; exceptions are formed by Thal II and Kotki, where a decrease is observed. In the case of Kotki camp, intertribal conflict during the year preceding the survey led to a 10 month boycott of clinic services by approximately 40% of the population. The reason for a decline in Thal II is not so clear.

Worthy of notice was the **largest increase of BCG scar evidence found in Mohammad Khoja and Kahi**, both camps in which the IRC medical teams were headed by physicians who strongly support outreach and other immunization efforts.

3.6.3 Vaccination status for BCG, by review of records

When the vaccination status for BCG was examined on the basis of vaccination records of the 71.5% children who had cards, the results were:

- **55.5% of all children 12 through 60 months had received BCG vaccine.**
- 3.4% of the children had not been immunized with BCG vaccine.
- For 18.9% of the children the vaccination status for BCG remained unknown.

The decrease in coverage when comparing BCG scar evidence and BCG vaccination records is somewhat deceiving since the records were only studied for children above 12 months of age.
For an additional 22.1% blanks appeared in the questionnaire for this piece of information, which largely corresponds with the amount of children below 12 months of age in the survey, most of whom had evidence of a BCG scar as well.
Overall coverage for BCG is high as becomes clear when a comparison is made with UNICEF most current figures of the average coverage for all developing countries combined, and for Pakistan (UNICEF "State of the World's Children", 1987):

% BCG coverage Kohat, 1987	% BCG coverage Developing countries, 1985	% BCG coverage Pakistan, 1985
79%	49%	43%

3.6.4 Vaccination status for Measles, by review of records

Compiled data of Measles vaccination records for all children between 12 and 60 months, for all camps, show that:

- **64.0% of the children were vaccinated against Measles.**
- 6.3% of the children had not been vaccinated.

Excluded again are the children below 12 months of age.

The coverage for Measles vaccine in Kohat region compares very favourably with the latest UNICEF figures of average coverage for Measles in the developing world, and in Pakistan (UNICEF "The State of the World's Children", 1987):

% Measles cov. Kohat, 1987	% Measles cov. Developing countries, 1985	% Measles cov. Pakistan, 1985
64%	26%	25%

3.6.5 Vaccination status for DPT (Diphteria, Pertussis, Tetanus) and Polio, by review of records.

The vaccination status for DPT and Polio, for all children between 12 and 60 months, for all camps, was:

- **25.3% of all children were completely vaccinated against DPT and Polio.**
- **44.3% of the children were partly vaccinated.**
- 1.2% of the children had not received any dose of DPT of Polio vaccine.

UNICEF data inidicate that average coverage for all doses of DPT vaccine in developing countries, for children 12 months of age, is 40%; for Polio, 37%.
(UNICEF State of the World's Children, 1987). The IRC 1987 data include children above 12 months and below 60 months, which skews comparative observations; However, **complete coverage for DPT and Polio in the Kohat region is approximately 25%; much lower than the mentioned average of 40%.**

The problem of drop out from the full series of DPT and Polio vaccines is apparent here;
For many children beyond the age of 12 months who have had only one dose of either vaccine, it becomes more and more unlikely they will return to the clinics to receive a second or third dose. Often, when asked why they did not return to the clinics with their children for another dose, mothers would respond:"I never knew I had to go again", or: "I knew my child needs another injection, but I do not know when, because sometimes children get injections at the clinic, and sometimes not. How can I know?"
A need for a clear, practical educational tool to help mostly illiterate mothers overcome the problem of misconception with regard to vaccination, seems to be expressed through such words.

IRC coverage for DPT and Polio compares with UNICEF data as follows (UNICEF "State of the World's Children", 1987):

% DPT/Polio cov. Kohat, 1987	% DPT/Polio cov. Developing countries, 1985	% DPT/Polio cov. Pakistan, 1985
25%	37-40%	32%

4. WOMEN'S HEALTH

The 1986 survey gathered some information about factors that influence the health of Afghan women: the presence or absence of trained personnel during delivery and the occurrence of problems during pregnancy, labor and delivery were the main aspects investigated. The 1987 survey attempts to gain more insight in these aspects, as well as additional data. Including all 674 women in the sample, information gathered consisted of:

- Total number of women pregnant,
- Utilization of clinic services,
- Tetanus Toxoid vaccination coverage for pregnant women,
- Skilled attendance during labor and delivery,
- The occurrence of problems during pregnancy, labor and delivery,
- The occurrence of miscarriages and stillbirths,
- Recall of maternal deaths among relatives during the year preceding survey,
- Opinions about skilled assistance during childbirth, and
- Opinions about childspacing.

4.1 Utilization of clinic services

Assuming that medical screening and treatment, and public health efforts generally improve health status, first, as a measure of utilization of the available health services, the frequency of women's visits to the Basic Health Units was assessed.

Outcome of this part of the survey for all women, in all camps, was:

- 5.9% of all women visited the Basic Health Unit during the week prior to the survey.
- 9.1% of all women visited the clinic during the previous 2 weeks.
- 18.0% of all women paid visits to the Basic Health Unit 3-4 weeks ago.
- 7.7% of all women had reason to go to the BHU 4-12 weeks ago.
- 24.7% had visited the clinic more than 12 weeks ago.
- 33.6% of all women had NEVER visited the Basic Health Unit.

It is striking to note the large percentage of women who have never visited the Basic Health Unit, or only visit very infrequently. The main reasons for their staying away were described by these women themselves:

- 25.5% of the women who visited the clinic longer than 12 weeks ago or never, said they have not been sick, thus did not need medical help.
- 16.9% of those women do not go to the clinic because they find not enough medicine is given to them.
- 4.9% of the women do not go because the distance between their home and the Basic Health Unit is too far.
- 3.8% of the women say their staying away is due to a trespassing of the traditional rules of Purdah in the clinic.
- 3.7% of the women said they did not visit the clinic because they did not approve of clinic staff behavior (This was mosty described as rudeness in address).
- 0.7% of the women did not go because they prefer traditional treatment of illness.

From the survey results it can further be reported that **11.2% of all women, for Purdah reasons, have no permission** from their husbands or the male relatives in their compound, **to visit the clinic.** Of these women, 3.4% first quoted one of the above mentioned reasons for their absence, and later admitted to not have permission to visit the BHU.

The remaining data were for those women who visited the clinic within 12 weeks prior to the survey.

Reasons less frequently mentioned, yet indicative of both Afghan culture, and clinic dynamics, were:

A number of women said that being alone in the house hindered their ability to go to the BHU because no one can then take care of all children. Some women said they were pregnant, therefore felt shame and did not go. Some other women said to have just delivered a child and cannot visit the BHU because of that; or to be too young to go by themselves. A few newly arrived refugee women further mentioned not to know where the BHU is, or not to be aware of its existence. Finally, it is likely miscommunication between clinic staff and patients are occasionally reason for women not to continue regular clinic visits. One woman commented the doctor told her to go to a hospital in Peshawar "because there was no proper medicine for her in the BHU". She therefore concluded no BHU service could ever be helpful for her anymore. Another woman said the doctor told her her record had been completely filled out, so she needed not any longer come to the clinic. The various functions of clinic services are not always clear to the women coming to the Basic Health Unit; Treatment of a problem and screening or preventive services often being the same within the conceptual framework of the women, clinic attendance or action taking place in the BHU may cause a response quite contrary to what is aimed at.

Overall, the amount of medically underserved or unserved women is more than 50%. This is disregarding the question whether they are in immediate need of medical attention or not. Taking in account the existing cultural barriers, an active search for ways to encourage women to utilize the available services (particularly during pregnancy), seems more and more imperative.

4.2 Prevalence of pregnancy and pregnancy related problems

At the time of survey, 23.6% of all women were known to be pregnant, i.e. almost one fourth. An additional 6.4% of the women assumed they were in their first months of pregnancy, but did not know for sure. Last year the percentage of women pregnant was 20.0%.
As this percentage only represents the women pregnant at the particular time of survey, and not the ones who will become pregnant throughout the remaining part of the year, the percentage of pregnant women in the course of the full year can be expected to be twice as high (approximately 47%).

The number of women at risk of having problems during pregnancy, labor or delivery, is therefore very high. Yet of all women, the number claiming to have had problems during their last pregnancy and delivery, is extremely low: 3.2% (In 1986 this percentage was 4.2%). Of an additional 3.5% of the women it is not clear whether they had real problems or not, due to unsatisfactory descriptions by them.

Problems that seem to occur more frequently than others, and that should be of serious concern, are: Prolonged labor, Post Partum Hemorrhage, Retained Placenta and Multiple Delivery.
Other problems described were: Edema during pregnancy; Ante Partum Hemorrhage; Delay of contractions; And after delivery some women were hindered by repeated breast infections.

Besides the above complications, in all of their childbearing years, 23.5% of all women had experienced one or more pregnancies that ended in a miscarriage or a stillbirth:
16.9% of the women had 1 miscarriage, and 6.6.% had 2 or more. For 5.9% of all women such pregnancies led to 1 or more stillbirths. Although these data include pregnancies prior to refugee exile in Pakistan, the problem persists as a contemporary one; As an example may serve a young woman in Thal II camp whose husband had gone to Jihad 2 months prior, and who was left completely alone in an obvious state of extreme destitution with a 17 month old child to take care off. Also alone, she suffered through a 6 month miscarriage at home.

4.3 Ante Natal Care and Trained Birth Assistance

As the character of problems occurring during times of childbearing are in most cases preventable when proper antenatal screening and skilled birth assistance take place, the 1987 survey assessed the number of pregnant women who had antenatal records, and the way in which all women delivered their last children. Data, as compared to 1986 survey outcomes, are presented below.

4.3.1 Tetanus Toxoid Vaccination Coverage

Of all women pregnant (23.6%), 18.7% had antenatal records from the Basic Health Units. Of those women with records, 22.6% had received a full series of Tetanus Toxoid vaccine. When asssuming that the women who did not have antenatal cards also never received Tetanus Toxoid, the **percentage of all women with completed TT vaccination is very low: 3.5%.** The UNICEF estimate for average TT coverage of pregnant women in all developing countries is 16%; and for Pakistan 10% (UNICEF "State of the World's Children", 1987).
This finding, together with the observed very high percentage of pregnant women, and a continued high prevalence of Neonatal Tetanus, seem to demand intensification of outreach activities by women, for women only.

4.3.2 Birth Assistance

Data for 1987 show that:

- 75.2% of all women were assisted during delivery by their mother or an immediate female relative.
- 8.4% of all women delivered their babies without any assistance at all.
- 7.0% of all women received help from a traditional dai (midwife) at the time of delivery.
- 4.2% of the women were delivered with other assistance, which in most cases indicated hospital deliveries.
- 3.6% of all women delivered with help from an IRC trained dai.

No significant change has taken place in this area since last year. **The percentage of women who delivered their last child without any trained assistance remained almost the same: in 1986 it was 86.3%; the 1987 survey yielded a percentage of 83.6%.**
Shifts between categories of percentages seem to indicate that:

- More women are receiving assistance with their deliveries from IRC Lady Health Visitors, or from medical staff in hospitals (1986: 2.8% versus 1987: 4.2%).
- Less women delivered their children without any help at all (1986: 16.3% versus 1987: 8.4%).

On the other hand:

- More women delivered with help from their mother or relatives. (1986: 70% versus 1987: 75.2%).
- More women delivered with assistance from traditional dais. (1986: 5.3% versus 1987: 7.0%).
- Less women were found who received assistance from an IRC trained dai (1986: 5.6% versus 1987: 3.6%).

Concern is caused by the finding that fewer women this year have had assistance at birth by a Trained Birth Attendant (TBA), especially because increased efforts have been undertaken to train TBA's in the year prior to the 1987 survey. A partial explanation for this could be expansion of TBA training activities did not begin until the spring of 1987. Also, a rapid change cannot be be expected in this area, as the number of Trained Dai's for the the total number of women in the camps has remained very small thus far (In the middle of 1987 approximately 140 dai's were at the service of an estimated 23,000 women). This, combined with the fact that once a midwife has been trained, she still remains limited in her mobility and might only reach 5 to 6 families while respecting Purdah tradition.

4.3.3 Women's opinions about birth assistance

In order to get a better impression of the Afghan women's attitudes toward the availability of trained assistance during their deliveries, all women were asked to express their opinion in in this regard.

Approximately:

- 43% of all women expressed a keen interest in the availability of trained assistance during their deliveries; 17% of these women added that unfortunately there are no trained dai's in their camp, otherwise they would have made use of their skills.
- 17% of all women indicated they would like to be able to call a trained dai when problems arise during delivery, or when a difficult delivery is foreseen; normal deliveries do not demand such help according to them.
- 9% of all women said to prefer assistance from medical staff in a hospital or the Basic Health Unit, most of whom found it only necessary to get help when problems are apparent.
- 8% of all women do absolutely not want help from a trained dai, and often expressed not to want any help at all.
- 5% of the women said they did not know what the capabilities of a trained dai are, or were not aware of the existence of a trained dai.

Of all women, 18% gave other opinions which are represented by a series of literally recorded quotations from discussions with the women surveyed; A few are presented below and others are included in this report as Appendix 2, for those interested.
One of the women said:
"My mother-in-law attends my deliveries, and then it goes quickly, without any problems. So we don't need a dai".
Another woman considered the arrival time of the new child to be of influence and said: "I think help from a trained dai is very good, but my babies always come during the night or on Friday and then the dai cannot come".
Yet another woman pointed at the remuneration the trained dai demands when attending deliveries: "The trained Dai wants 100 Rupees when she attends a delivery, and that is too expensive for me. I cannot pay that."
In Darsamand camp a woman seemed disappointed: "I do not like help from the Trained Dai. She does not do deliveries carefully."
A woman in Dallan camp expressed: "I do not like a trained dai to deliver my children. I want help from my relative, because Purdah is a big problem for us".
Quite different was the opinion of a rather young woman in the same camp, who said: "I would like a trained dai to be with me during my deliveries. Last time I did it alone, and I did not like that; Or of the woman who said: "My last delivery was attended by a trained dai, and I liked it so much that I want her to come to all my next deliveries".

Opinions vary widely and show the heritage of the Afghan culture, yet the most convincing argument in favor of skilled assistance at birth may have been expressed by a young woman in Thal I camp. She unwrapped the traditional swaddling cloth of her baby, pointed at the swollen, infected navel on its belly, and said: "We want. a Trained Dai".

4.4 Fertility and Reproductive Health

4.4.1 General Marital Fertility Rate

The 1987 survey sample included 674 married women of childbearing age and 997 children < five years of age. Of all women 270 women had given birth during the 12 months prior to the survey. This leads to a **General Marital Fertility Rate (GMFR) of 400 live births per 1000 women of childbearing age** (between 15 and 49 years of age) There is a 95% certainty that the true GMFR lies between 353 and 447. For the year preceding the 1986 survey, the GFR was 418 live births per 1000 women. No change is observed here, especially not when considering that in 1987 23.6% of all women were pregnant against 20.0% in 1986. A very high fertility seems to have stabilized amongst the Afghan population.

4.4.2 Total Marital Fertility Rate

To obtain a second impression of the current fertility level of Afghan women, the Total Marital Fertility Rate (TMFR) was calculated, based on information gathered through pregnancy histories for all women of childbearing age. The Total Marital Fertility Rate is a measure of the hypothetical number of children a woman would have by the end of her childbearing years if she were subject to the current set of age specific fertility rates. The following table shows those age specific fertility rates based on data of Afghan women bearing children during the 12 months prior to the 1987 survey:

Age specific Fertility Rates, Afghan women, Kohat region, 1987

- 15-19 years of age = 0.6
- 20-24 years = 0.5
- 25-29 years = 0.42
- 30-34 years = 0.39
- 35-39 years = 0.3
- 40-44 years = 0.38
- 45-49 years = 0.15

Total = 2.74 x 5 year cohorts = 13.6

As it is the first time an attempt is made to present such rates, no comparisons can be made with other studies in the same region, or among the Afghan refugees. However, when the above age specific rates are applied, the 1987 IRC survey yielded a Total Marital Fertility Rate of about 13.6 births per woman in the refugee camps; i.e. **if those rates will continue unchanged, Afghan women will average 13.6 live births during their childbearing years.**
This finding only reinforces the assumption of an extremely high fertility among Afghan women; the world's highest documented Total Marital Fertility Rate registered through the World Fertility Survey was found in Yemen: 10.5 (World Fertility Survey report, 1985).

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Factors generally found to influence fertility levels in populations with non-refugee status are: level of education of women, place of residence (urban - rural), ethnic group, marriage and fertility preferences, socio-economic indicators, and religion. The Afghan refugee population can be described as having all characteristics to support high fertility levels: women have virtually no educational background; the majority of refugees have come from very rural areas in Afghanistan; life is at a subsistence level in Pakistan; although the amount of refugees finding sources of income is growing, economic conditions of most families are poor; Afghan culture dictates a preference for marriage at a very early age, as well as preference for a large family. This last fact still being reinforced by the conviction of many women to contribute to the "Holy war" by means of perpetual childbearing. Also, preference to bear sons is a strong determinant of high fertility; marriages are very stable as prescribed by the often fundamentalistic Islamic society - a fact known to enhance fertility; Furthermore, social and religious pressures have imprinted the role of motherhood in women; With the adherance to strict Purdah, women are constantly within the compound, as contrasted to their previous role of activity in the agricultural sector in Afghanistan; Finally it may be mentioned that increased access to antibiotics reduces infertility traditionally caused by infections; and that a stable nutritional intake of women helps to bring fecundity to peak levels.

Combined with a rapid decline of Child Mortality, the fertility of Afghan women poses an immediate question for all policy makers, program planners and administrators; assuming that the current fertility level remains stable in the near future, an enormous expansion of the Afghan population may be expected, specifically of its youngest members.
Based on the assumption that the real population is the same as the registered population; that married women make up approximately 20% of that population; and that all cultural, economic and environmental factors remain the same; a very rough projection tells us that:

- In all refugee camps, about 800,000 women will give birth at a rate of 400/1000, i.e. to 320,000 live children per year.
- Assuming the Child Mortality Rate remains stable at 100/1000 (see above) it is likely that within 15 years there will be 4.5 million refugee children below age 15 [(15 x 320,000) - 10% for CMR].
  Only in the field of education e.g. this implies there will be about 3 million new primary and secondary school students.

Expansion of services, or re-focussing of available services, whether medical or educational, become of demanding importance if one wants to stay at pace with present trends. Also, in case political decisions create major shifts in the current rather stable situation of refugee settlement, the question of rapid population expansion remains practical and real: how can services be increasingly planned to prevent large gaps between what is being offered to refugee families in terms of education, sanitation, water supply, health and other development efforts at present, and what will remain with them to help raise those many future children after present relief status is no longer available?

4.4.3 Women's opinions about childspacing

To gain more insight in the perception of Afghan women themselves of the responsibility of childbearing, each woman in the 1987 survey was asked whether she had ever heard of the possibility of spacing her pregnancies, and what she thought of such possibility. Responses were remarkably diverse; Approximately:

- 33% **of all women, of all ages, firmly expressed a negative judgement about influencing the number of children they bear**, or more positively, stated they just want more children. The total number of children these women had, ranged greatly. Among the women expressing their dislike for methods of childspacing, about:
  - 5.5% were of the opinion that family size is a matter that is, and should be determined by God. A pregnant woman in Dallan camp, who had lost 4 children and had 4 living children with her, thus simply said: "It is up to God how many children we get".
  - 2.0% of them were concerned about the occurrence of side effects when using childspacing methods (the main methods available being high dose - 80 mg estrogen - oral contraceptives and depprovera injections). A woman in Kotki camp said: "I have taken oral pills before, but the reaction to the pills is very bad. In one month I bled three times, so I did not want to use them anymore".
  - 3.5% of the women said not to like childspacing because they wanted to have more sons - childspacing would decrease their chances to have a son.

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All further opinions were of value in that they shed light on the issue from a different angle. Like the following words of a young woman in Kahi camp:
"My two children died, and I had one miscarriage, so I want more children". Or the explanation of a woman in Dallan camp: "I know about childspacing and I want it too. But last week I went to the clinic again for childspacing medicine, but the doctor did not understand my language and then did not give me anything".

Other representative opinions encountered on this topic, as they were recorded during the interviews, can be found in Appendix 3.

Overall, frankness and open attitudes characterized the majority of women when speaking about this topic. Regularly a small group of relatives and/or friends would start a lively discussion after a woman would have expressed her opinion.

The findings of this part of the survey suggest that although the very high fecundity among Afghan women is to a large extent sustained by deeply rooted cultural norms, a not unimportant percentage of women (more than 50%) take an interest in the possibility of having fewer children. However, only a small minority of women take action in this regard. The number of women using contraception or even knowing about contraception, is too small for any noticeable effect on fertility levels and separation of spouses, e.g. when the husband has gone to Jihad, appears to be of minimal influence. This is likely due to the fact that most Mujahedeen only leave for a few months at a time.

Thus, the question of rapid population increase in the Afghan refugee camps is of serious immediate, and long range concern; it seems of crucial importance to thoroughly search for ways to accomodate dawning population pressures. To begin with, at least some of the reasons for nonuse of contraception, such as lack of availability in the clinics of modern methods of fertility regulation and insufficient explanation or sensitivity when demanded, could be addressed.

4.5 Maternal Mortality

The World Health Organization estimates that in Asia approximately 400 out of every 100,000 women die in pregnancy and childbirth every year. (In Northern Europe there are typically 2 to 9 maternal deaths for every 100,000 live births) Few countries, however, have complete and accurate data on the scope of maternal mortality, because exact figures are needed for the total number of women in a particular area, and for the illness contracted by these women.
For the refugee camps such accuracy is unrealistic as well. In the 1987 survey a fair impression of maternal mortality was obtained however, by requesting all women interviewed to recall the maternal deaths in the past year of their immediate relatives whether they lived within the same compound or elsewhere. Sufficient information was gathered on each woman to avoid overlap of recorded deaths. Findings were such as described below:

- 0.1% (1) of all women reported the death of a close relative during childbirth who lived within the same compound.
- 1.2% (8) of all women had a close relative who died during or after delivery, in another compound than their own.

Based on a 5 year recall by the women, in the 1986 survey it was roughly estimated that 1.7 out of every 100 women of childbearing age had a relative who died during labor or within 30 days after delivery. With a more reliable recall period this year of 1 year, and additional details to support a more accurate estimate, the figure remains nearly the same: **in 1987 1.3 out of every 100 women recorded a maternal death among their relatives.**

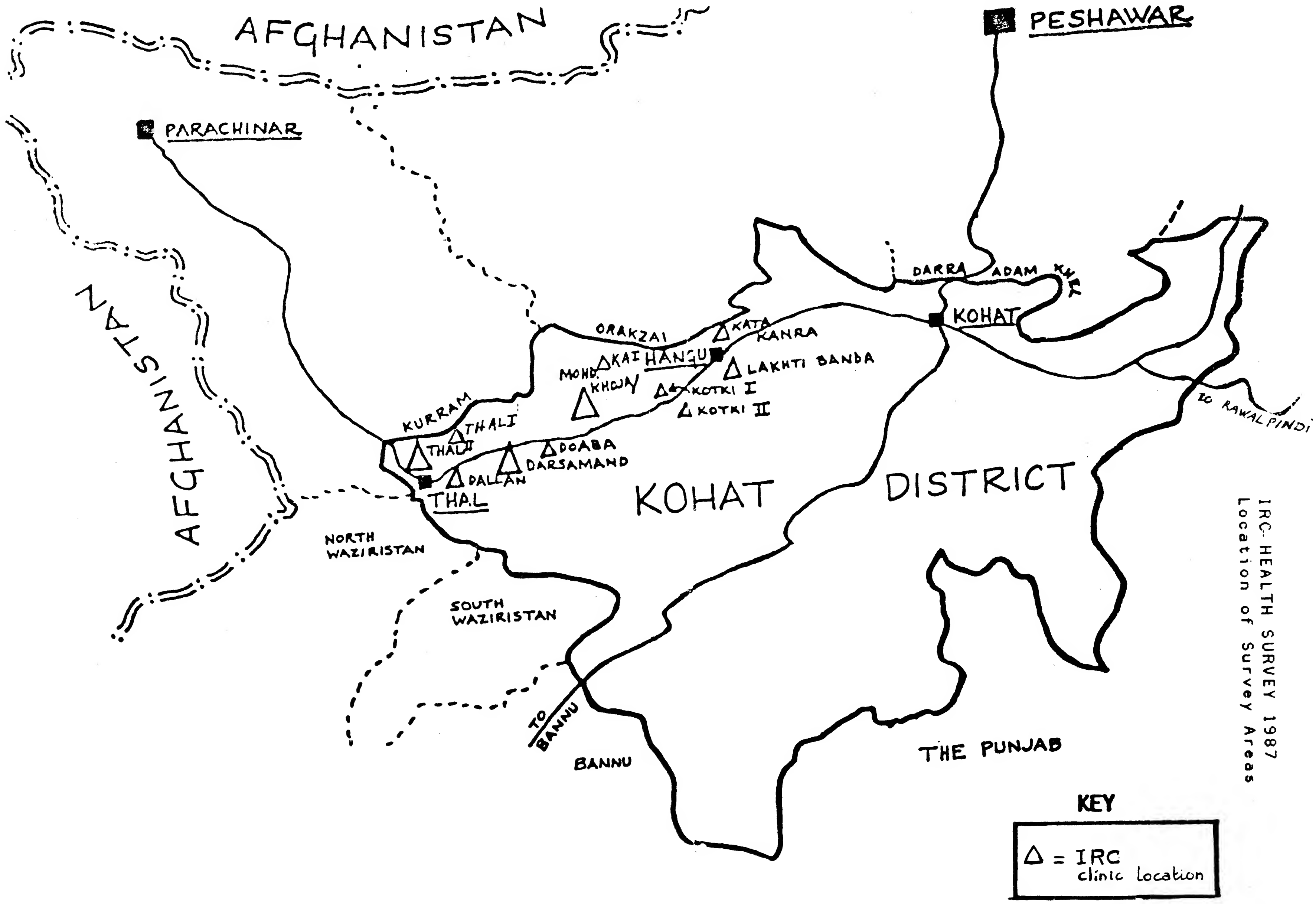
All women who died, had been in Pakistan for at least 6 months to one year before they died. All, but 8% of the women were reported to have died within the boundaries of the area surveyed. The highest percentage of women dying were in the age category of 15-20 and 20-25 years.

For 36% of the deceased women a cause of death could be deduced, based on descriptions of the women interviewed:

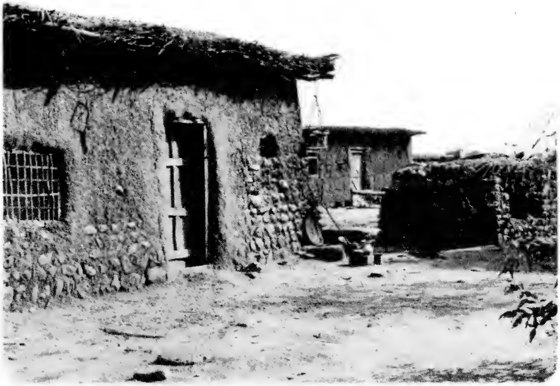
- 20% appear to have died of Post Partum Hemorrhage.
- 8% of the women are likely to have died of the results of a Retained Placenta.
- 4% of the women developed prohibitive problems with Multiple Deliveries.
- 4% of the women died with symptoms of Tetanus.

Less clear were the descriptions of death causes for several other women:
e.g. one woman was reported to have died shortly after undergoing a Caesarean Section; another woman was reported to have become sick shortly before delivery (severe vomiting), at the time of which she died.

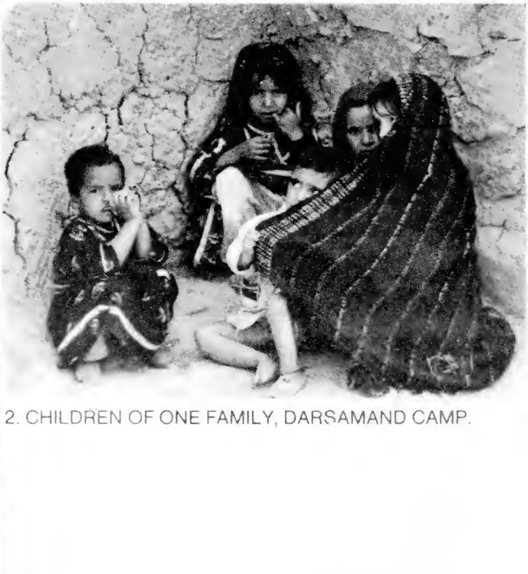
The above data may speak for themselves; Perhaps all of the above deaths could have been prevented had simple action steps been taken in time. Many Afghan women continue to die during childbirth, and keeping in mind the increasing risks of childbearing that are concomitant to the presently high unrestricted fertility levels of women, and the absence of change in the area of trained birth assistance, the issue of "safe maternity and motherhood" bears more and more significance. Furthermore, given that very few women seem to anticipate problems related to pregnancy and childbirth, it may be assumed that the likelihood of irreversible complications is strengthened. As another point of concern may be mentioned the increased risk of "indirect" maternal deaths as a result of an increased number of pregnancies; pregnancy can exacerbate many pre-existing chronic conditions such as anaemia (a highly prevalent problem in the refugee camps), hepatitis and hypertension.



IRC-HEALTH SURVEY 1987
Location of Survey Areas



1. REFUGEE LIVING ENVIRONMENT.



2. CHILDREN OF ONE FAMILY, DARSAMAND CAMP.

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4. IN IRC "SPECIAL CARE" PROGRAM FOR UNDERNOURISHED CHILDREN - THAL I CAMP.

5. ONE DAY OLD NEWBORN.

6. FATHER'S PRIDE — KAHI CAMP.

7. DAILY CHORES CONTINUE DURING LAST DAYS OF PREGNANCY – DOABA CAMP.

8. WASHING DISHES IN THE STREAM – LAKHTI BANDA CAMP.

5. ENVIRONMENTAL FACTORS

5.1 Use of drinking water

For all compounds in the survey sample, 1987 data were compared with 1986 information on environmental factors. The following table indicates which changes have taken place in the area of drinking water sources:

Use of drinking water source, in 1986 and 1987

	Contaminated water sources		Improved water sources		
	Unimproved wells	Streams	Improved wells	Springs	Faucet water
1986	42%	21%	19%	11%	2%
1987	**32%**	**3%**	**31%**	**22%**	**12%**

A very positive trend is immediately apparent: **In 1986 63% of families were using drinking water from directly contaminated sources; in 1987 this percentage has lowered to 34.5, which is almost a 50% improvement.**

The largest changes were found in Lakhti Banda camp where the percentage of water use from improved wells rose from 0 to 54.5%; **and in Mohammad Khoja camp** where the percentage of spring water use increased from 16 to 45%. At the time of survey a large spring fed, piped water system had been completed by the IRC sanitarians - its impact seems to be obvious. Also in Mohammad Khoja camp, the use of water from improved wells rose from 14 to 23%.

Thal I camp can claim the largest increase in use of faucet water: from 3 to 63%; a large increase in use of spring water: from 7 to 27%; and an encouraging decrease of drinking water use from streams: from 22 to 0%.

In almost every camp both an increased use of clean drinking water, and a decrease of Diarrhea prevalence was observed.
Thal II camp was observed to have a high increase of families using water from improved wells (from 10 to 31%) , as well as the largest decrease of children with Diarrhea episodes (from 51 to 28%).

On the other hand, in Doaba camp, where the highest percentage of families still using drinkwater from streams was found (7.6%), a very high percentage of children with Diarrhea was observed as well (27.8%).

A considerable drop in Diarrhea prevalence was noted in Kahi camp from 1986: 47% to 1987: 33%), where simultaneously the percentage of families using drinking water from improved wells rose quite a bit (from 1986: 10% to 1987: 34%) as well as the percentage of families using faucet water (from 14% to 21%); the percentage use of stream water dropped in Kahi from 23% to 0%. Given that Kahi camp is known for the persistence of severe water supply problems in the year preceding the survey, these outcomes offer credit to all involved in the improvement of Kahi's water supply and sanitation.

5.2 Use of ventilated, improved pit latrines

In 1987, of all families, 46.4% use an improved latrine. In 1986 this was 43%. In contrast with the water supply data no sensational change appears to have taken place here (as IRC focussed its energy largely on the improvement of water sources). Also, lack of clean water has without doubt priority in the refugees' mind over the availability of a latrine. women and men alike would perpetually address the problem of water scarcity and pollution during the time of survey, but hardly ever begin a discussion about ways to obtain an improved latrine.

The highest percentages of latrine use were found in Kotki, Lakhti Banda, Thal I and Darsamand; these camp's sanitarians are known to work with incessant energy to improve the sanitary conditions in their area of responsibility.
In all camps, latrine use compares as follows:

- Lakhti banda - 62.3%
- Mohammad Khoja - 21.7%
- Doaba - 43.9%
- Kata Kanra - 47.2%
- Dallan - 49.3%
- Thal I - 61.2%
- Kahi - 43.4%
- Thal II - 26.7%
- Darsamand - 58.9%
- Kotki - 66.7%

5.3 Use of kitchen gardens

Of all families, 36% make use of a kitchen garden; in 1986 this percentage was 35%. Gardening efforts are likely to demand more time than immediate health and relief activities; the minimal change observed here might suggest a need for increasing kitchen gardening outreach activity and seedling distribution.

Most families utilizing kitchen gardens were found in Kahi (53%), and in Kotki (51%). Mohammad Khoja had the lowest percentage of families with kitchen gardens (29%). Although one might expect the increased presence of kitchen gardens to add to the quality of usual food intake of families, and therefore decrease nutritional deficiency in particularly children, no such trends appear to be happening. One can speculate that, besides it being rather early to see the results of longer term activities such as kitchen gardening, the calorie intake of children is in most cases consistent and sufficient to prevent malnourishment; the effects of a better balanced diet would therefore have to be evaluated by the increase/decrease of illness such as vitamin deficiency, eye problems and skin sores, a task beyond the scope of this study.

5.4 Presence of poultry and livestock

Finally, a large change occurred in the presence of poultry and/or livestock in the compounds of the women and children surveyed: In 1986 52%, and **in 1987 100% of all families had poultry and/or livestock in their compound:**

- 43.3% of the families had some chickens;
- 43.0% of the families had more than one type of animal, which most often meant chickens and one or two cows.
- 9.0% of the families had goats.
- 4.3% of the families had cows, again mostly one or two.
- 0.3% of all families had donkeys.

Especially remarkable is the enormous increase of chickens in the compounds, and IRC's chicken farm may claim success in this regard. Implications of the above change first of all have to be thought of in a positive sense: more protein has been added to the diet of the refugee families in the form of eggs, chicken and sometimes meat. In how far this influences the prevalence of malnutrition can be questioned due to the common custom of serving protein sources to the men in the household first, and to the children last. Nonetheless, a decreasing dependency on the ration distribution system alone cannot but be welcomed; although women and children are unlikely to receive the direct benefit of protein, the diet additions will leave more rice and wheat to share within the family.

More concern causes the thought of increased chances for contamination of water and food sources in the compound with the large number of animals present, especially because often animal space is not confined to a particular area of the compound. In Lakhti Banda camp, where intense efforts have taken place in the last year to improve water supply conditions, the percentage of children with Diarrhea did not decline. The use of clean water may well be hindered to have effect when animals pollute surroundings. A plea for more educational efforts that accompany the construction of water supply systems continues to seem justified for such reasons.

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- The study would also not have been possible without the endurance of the survey field team: four Lady Health Visitors who maintained cheerful spirits and energy while working long days, moving on foot under often difficult circumstances; in particular during the hot, dusty and dry summer of North West Frontier Province, with occasional sudden hard rains and floods.
- We are grateful to the Pakistan Red Crescent Society for its collaboration in seconding a senior and very experienced Lady health Visitor to the IRC, for the purpose of surveillance. We also wish to thank Munawar, IRC's Maternal and Child Health Coordinator, who arranged the participation of two IRC Lady Health Visitors with interest to learn, and who never failed to welcome us back from the field with a kind word.
- Susan Tachna, who as part of her internship with the IRC Health Education Resource Center became Assistant Field Supervisor, and helped with the progress of the data collection in a very pleasant way. She displayed a natural understanding that unexpected problems in the field are best encountered with a healthy dose of humor. Also, with good insight, she helped to design and carry out an evaluation of activities of the IRC's newly trained Community Health Workers.
- A word of special thanks is addressed to Owen Crowley, who in a busy time himself, showed much patience during the set up phase of the computer program chosen for data compilation.
- Last, but certainly not least, we are thankful to Thomas Yates, director of the International Rescue Committee in Pakistan, who is gifted to support and inspire all.

6. GENERAL RECOMMENDATIONS

1) Continue with the excellent efforts to extend BHU service into the camps through outreach, vaccination campaigns, sanitation and water supply activity, community health worker visits etc. It is apparent that each of these efforts is having measurable impact.

2) Regarding the prevalence of malnutrition special attention should be given to Kahi. This camp continues to have the highest percentage of malnourished children. Refresher training in the form of small, participatory groups could be organized for clinic staff to stimulate maximum attention to health education with this focus.
Also, the increase of malnourished children in Kotki camp should be studied to find possible causing factors and solutions.

3) Besides the pleasing, overall reduction in Diarrhea prevalence from 39.7% to 27.7%, Lakhti Banda and Mohammad Khoja camps lag behind the others. In general, but especially in these camps, concerted efforts of household health education, water supply and sanitation should continue.

4) In the area of immunization vast overall improvements have taken place; yet the World Health Organization aspires to achieve a coverage of 80-90% fully immunized children by the year 2000. For BCG and Measles vaccination it appears this target is slowly being reached, but DPT and Polio vaccination results remain behind. Lessons learned in Mohammad Khoja and Kahi can be applied to other camps. Systematic outreach of independent vaccination teams may be pursued to counteract drop out of immunization defaulters, while simultaneously reaching children never immunized. Considering the described confusion of mothers regarding multiple doses of vaccines, every opportunity to educate women about the amount of and appropriate times of vaccination should be grasped; a simple, exclusively visual hand out educational material that reminds mothers to take their children for vaccination, may be a helping hand and can be worked out by the IRC Health Education Resource Center.

5) Focus especially on outreach to women. About 50% of all women hardly ever, or never visit the Basic Health Unit; thus they remain without the benefits of medical and preventive health services. A trained, possibly rotating team of home visiting Lady Health Visitors in each camp may be the only way to reach all women, and to expand educational and screening services for pregnant women.

6) Both factual outcomes of the survey as well as the opinions of the women themselves demand continued expansion of TBA training. However, ways to improve the impact of current efforts should be explored. A completely pictoral sheet to report normal and refer complicated deliveries may be encouraging for the trained dai's, and may be helpful to get an overview of events taking place. Also, during training, a protocol for remuneration of the dai's should be addressed as this issue seemed inhibitive for a number of women who desired help during delivery.

7) Fertility and reproductive health. Without doubt, this is the most sensitive of all needs, yet certainly a most important one as well. Maternal Mortality is excessive and it is unlikely there will be any further reduction in Infant Mortality before birth intervals increase. First and foremost the appropriate response seems to continue to lie in expansion of basic health services for women and infants; yet about 50% of all women have expressed an interest in spacing their pregnancies and it seems that even in a culture as restrictive as the Afghan one, the offering of acceptable means to accomodate this interest should not be avoided. From the side of clinic staff, respect for women who request information regarding methods of childspacing is imperative. Oral contraceptives, including 35 and 50 mg estrogen tablets should at least be available in all clinics, as well as depo provera. (Even other innovative, acceptable means such as Neo Sampoon or other foam tablets that have been used succesfully in other Asian contexts, could eventually be of value).
Clinics have been boycotted for lack or Purdah, and the issue of childspacing can certainly also spark such a response unless all responsible staff maintain utmost confidentiality and respect.

8) Focus watersupply and sanitation efforts on Doaba and Nariab camps where the highest percentage of families using drinking water from streams is still found (7.6%), as well as a high percentage of Diarrhea prevalence (27.8%). Use of improved latrines should especially be emphasized in Mohammad Khoja and Thal II camps.

9) The minimal change observed with regard to kitchengarden efforts suggests a need for increasing kitchengardening outreach activities and seedling distribution. As camps with the lowest percentages of families using kitchengardens, Thal II, Mohammad Khoja and Kata Kanra need priority in this regard.

10) Health education continues to deserve emphasis in all areas, preferably by means of practical demonstration sessions in small groups, or on an individual basis. A specific health education message suggested by the survey results is the isolation of poultry and livestock from human habitat, in order to prevent extensive contamination within compounds. Weaning, maternal nutrition and vaccination need to be examined carefully as topics in the curriculum for TBA's, CHW's, and clinic staff.

11) Depending on the situation in the camps in the coming year, a follow-up survey would continue to provide information useful for identifying health risks and targeting program interventions. During such a follow-up survey the same sampling technique could be utilized but the survey instrument could be revised slightly to incorporate information on the impact of TBA training and CHW activity.

All of the above points must be read in light of a continued stable refugee settlement situation. Room for adaptation will be mandatory in all areas of service delivery if political circumstances so demand. The hope remains that the major emphasis of IRC's preventive and educational activities will provide a foundation for independence upon return of the Afghan people to their homeland.

Appendix 1.

SURVEY METHODOLOGY

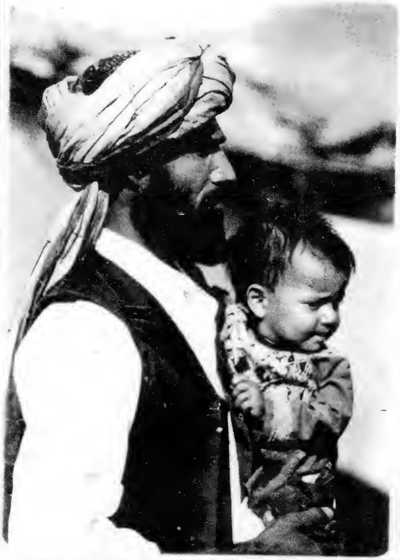
In both the 1986 and 1987 surveys, the sampling was based on most current population data estimates by the Office of the Commissioner for Afghan Refugees, North West Frontier Province (NWFP). **The registered Afghan refugee population in April of 1987 in the camps between Hangu and Thal,** in the Kohat district Pakistan's NWFP **included 19,229 families or 143,646 persons.** Repeating the former survey, 50 clusters or sample sites were randomly selected from the sampling frame, in which all 10 IRC served camps were included.
For a larger degree of confidence in the findings however, the population sample was increased from 2.5% last year, to 3.5% in 1987. The number of compounds that needed to be visited in each sample site therefore increased, and ranged between 8 and 18, depending on the registered population size in each camp. This resulted in a fieldwork period of one month, twice the duration of last year's work.

A similar way of identifying clusters and households within compounds as last year was adopted: 5 geographical areas were randomly selected in a star shaped pattern, while care was taken that one sample site (center of the star) represented the population in the center of a camp; the remaining four sites were selected to represent areas in 4 opposite compass directions, each further from the center than the last one, and disregarding natural barriers such as streams or ravines.

For each camp, the number of households to be surveyed was decided by multiplying the total number of registered households by 3.5% and dividing that number into 5 clusters of equal size, to obtain an accurate representation within each camp. In each cluster the initial household was selected blindly by tossing a coin, walking to the left or right for about 50 strides, tossing a second time for a second left or right turn and again walking about 50 strides, and tossing a third time for a compound to be selected on the left or right while facing a series of compound entrances. In the most favourable circumstances this would mean a number of compounds with attached walls in between them, and in more difficult cases compounds would be single units, lying far apart and only reachable over difficult terrain.

4. IN IRC "SPECIAL CARE" PROGRAM FOR UNDERNOURISHED CHILDREN - THAL I CAMP.

5. ONE DAY OLD NEWBORN.



6. FATHER'S PRIDE — KAHI CAMP.

On the third day, a number of linguistic alterations were and ambiguities cleared up. Also more roleplay was conducted. Importance was given to tactful elicitation of information, e.g. especially when probing mothers for causes of death of their children, reasons for not immunizing their children, etc. This training period proved very valuable both in respect of improving the survey instrument and and improving the technique and enthusiasm of the surveyors.

For the purpose of obtaining accurate information on dates of birth and death, an updated calendar of events familiar to the Afghan women was utilized. Pashto was the language used in most interviews, and Farsi in some. Each mother was interviewed in her own dwelling within the compound. Appendix 4 shows the forms as used for the recording of data.

In general, methodology provided no major field problems and, apart from the physical difficulties of getting to a considerable number of households, the fieldwork progressed smoothly, and the performance of the survey team was more than satisfactory.

In all 10 camps the team was accompanied by a Sanitarian or a Community Health Supervisor who helped with carrying the measuring instruments (weighing scale, board, ropes etc.) and who reinforced a good rapport with respondents because of his familiarity with most families. The Team Supervisor was responsible for providing guidance, selecting compounds to be visited, and assuring the appropriate performance of anthropometric measurements. The Assistant Field Supervisor helped with the continuity of surveillance within each sample site, the checking of proper data registering in the field, and maintenance of good morale. Each evening, the questionnaires were reviewed by the Team Supervisor together with the Lady Health Visitors for errors or inconsistencies, and if necessary, corrections were then made.

An Afghan driver from one of the camps was hired with a four wheel drive vehicle to provide transport between clusters and camps.

CALCULATION OF RATES/PERCENTAGES

The Infant Mortality Rate was calculated by dividing the number of children who had died in the previous 12 months and were less than 12 months old at the time of death by the number of children born alive in the previous 12 months (alive meaning that the child had cried following birth).

Calculation of Neonatal Mortality was accomplished by dividing the number of children who had died during the previous 12 months and were less than one month old at the time of death, again using as the denominator all live births.

The General Marital Fertility Rate was obtained by dividing the total number of live births during the previous 12 months, using the total number of women (of childbearing age, i.e. between 15 and 49 years of age) included in the survey as the denominator.

The Total Marital Fertility Rate was calculated by obtaining age-specific fertility rates, using the total number of live births during the past year for a specific age category. For a Total Marital Fertility Rate, the obtained rates were added and multiplied by 5, to represent rates for all ages.

For most calculations, percentages were weighted through computer compilation of data. One should be aware in this regard that because of rounding, percentages do not always add up to 100.

Appendix 2

WOMEN'S OPINIONS ABOUT TRAINED BIRTH ASSISTANCE: a representative sample

"At my last delivery the dai came only after the child was already born. If she can come early enough, we would very much like the help of a trained dai".

"My husband gives permission to have help from a trained dai, but if there is a problem, or if the baby comes out backwards, I would rather have the LHV from the clinic help me, or go to the hospital" (woman in Doaba camp).

"My deliveries are attended by a home dai. I think that is best".

"I do not like a trained dai to help me. Last time, when my contractions lasted too long, I went to the government clinic in Nariab to deliver the baby".

"Anybody can deliver a baby. It does not matter whether there is a trained dai or not".

"I have no baby yet, but when I do, I would like the Lady Health Visitor from the BHU to deliver it". (woman in Doaba camp).

"There is no trained dai here, but we want one very much. Now, if we have difficult labor, we have to go to the government hospital in Peshawar" (woman in Dallan camp).

"We women are all like trained dais. My mother is very experienced in attending deliveries. So we do not need help."

"I am living on the top of the mountain, and it is difficult to go down. So I never knew about the clinic or the trained dai." (woman in Dallan camp).

"I have only one child and it was delivered by the trained dai. Now I want her to deliver all my children".

"I feel shame if I go to the BHU, or if the trained dai comes to help deliver my children" (woman in Kotki camp).

"In every home the grandmother does work like the dai. We don't like anybody else".

"At both my deliveries the babies came out backwards, and they were delivered by my relative, but it was difficult. We would like help from a trained dai or a doctor" (woman in Kotki camp).

"I had only one child thus far and I delivered it in the hospital because it was my first baby".

"All my children were born in Afghanistan. Only one month after the last birth we came here. In Afghanistan there was no trained dai, but when I have a child here we would like her help if possible".

"I like help from a trained dai, but at my last delivery we called the doctor, because the placenta did not come out".

"I like help from a trained dai. But last time when I started labor, nobody was at home to go get her".

"In this camp (Darsamand) we have a home dai and a trained dai. We like the trained dai, but the home dai is my relative and she delivered my children".

"My last delivery was on Eid day, and nobody was at home, so I did it by myself. Otherwise we would have called the trained dai."

"All my children are born within half an hour. I don't need any help".

"I am glad you tell us about the trained dai. We are very foolish people, so we never know about things like the trained dai" (woman in Thal I camp).

"Help from a trained dai is very good, but my last child was born during the night, and then we cannot call the trained dai".

Appendix 3

WOMEN'S OPINIONS ON CHILD SPACING: a representative sample

"I am not pregnant every year, therefore I do not want to use any childspacing method".

"My husband is a very strict man; he does not allow me to go to the clinic. And he wants more sons" (woman in Doaba).

"I don't like childspacing. I have tried it, but I get sick when I take childspacing medicine".

"I know about childspacing already. Now I am pregnant, and after the child is born I would so much like to stop having children for a while, but I do not have enough money to buy childspacing medicine".

"I don't like childspacing because my sister-in-law says that she took oral pills and then got heavy bleeding".

"Grandmother does not like such things as childspacing. She says I married her son to get children, so we like more children" (woman in Kotki).

"For 3 months I took pills. But then other women said pills are not good for your health. So I stopped and now I am pregnant again. I am so sorry. Why did I stop taking pills?"

"I do not know anything about childspacing, but I want more children, maybe 12 or 10" (this woman in Kahi camp had 4 living children; 3 of her children had died).

"Mullah says we should not go to the clinic, and also that it depends on God how many children we get, so I don't like childspacing".

"Three years ago I started childspacing and for several months I went to get injections. Then other women told me to stop because they said: you will get sick and mentally disturbed after 2 to 3 years if you take that medicine. I believed them, so I stopped and now I am pregnant again. I feel very sorry because I have 7 children already" (woman in Darsamand camp).

"My husband is Mullah. I like childspacing, but my husband says: if anybody gives you childspacing medicine, it is allright and you can take it, but _I_ cannot bring it for you. He also says there is not enough Purdah in the clinic, so I cannot go by myself" (woman in Darsamand camp).

SUMMARY

During 1987 the International Rescue Committee conducted its second Health, Nutrition and Fertility Survey. The data collected have provided a base of information from which trends can be assessed for the 10 camps served by the IRC since the last survey was carried out in 1986.

We are pleased to be able to report the following highlights from the findings of the study:

- **a continued decreasing trend of Infant Mortality from 87/1000 to 52/1000.**
- **a decrease of Child Mortality from 11.8% to 10.4%.**
- **a decline of Diarrhea prevalence from 39% to 27.7%.**
- **a decline of moderately malnourished children from 8% to 1.2%, and of severely malnourished children from 4.2% to 0.3%.**
- **a rise of BCG scar evidence from 68.7% to 79.3%.**
- **a decline in prevalence of Measles, from 15.2% to 8.6%.**
- **an increase in the use of drinking water from an improved source, from 32% to 64.9%.**
- **a rise in the use of ventilated improved pit latrines, from 43% to 46.4%.**
- **an increase in the presence of poultry and livestock in the compounds, from 52% to 100%.**

With these results, the Kohat region may be considered one of a very small number of project areas in the world that have evidenced such enormous changes in such a short period of time.

On the other hand, solid reason has been found to believe that the improvement of overall health and decline in Infant Mortality, combined with a unique socio-cultural environment, have produced **a Fertility Rate that may well be the highest in recorded history.** More specifically, if the trends exhibited over the last two years were to continue, **by the end of her childbearing years the average Afghan woman would have given birth to 13.6 children.** Implications of such exceptional fertility bear weight in all sectors. Health, nutrition, education, agriculture and other development efforts must all take into account that the refugee population can possibly double within 15 years. Furthermore, when it does, more than 50% of the population will be less than 15 years of age.

Overall, the entire staff of the International Rescue Committee deserves recognition for the special efforts during 1986-87 to reach out from the Basic health Units to the farthest corners of every camp. It is only hoped that the evidence of impact that this report contains, provides motivation to continue in similar ways.

"I bring injections from the bazar. I really don't want any more children" (woman in Thal II, with 9 living, and 2 deceased children).

"I have only one son and I like that, but my husband wants more sons".

"We want to have more children, but I would like a space of 3-4 years between my pregnancies".

"I cannot go to the clinic for oral pills, because I am not allowed to go: there is not enough Purdah in the clinic. But now I bring pills from the bazar" (woman in Thal II).

"Grandmother says: you have only one child. After 2 or 3 children we will see".

"Now you tell me about childspacing, now only I know. If you have childspacing medicine with you, please give me some. I want to start now. Do they have that medicine in the clinic? Tomorrow I will go!"

"We don't like to have so many children, but if God gives them to us....?" (woman in Kahi camp with 7 living children).

"My husband has given me permission to use childspacing medicine, but I want more sons. I have only 3 sons, and 6 daughters".

"I like childspacing, but 8 of my children have died, and now only 4 are left, so we want more children" (woman in Kahi camp).

"I breastfeed my children for more than 2 years. Then I don't get pregnant so quickly" (a mother of 7 children, 1 of which died).

"I don't like to have another child, but I am the second wife of my husband and he married me to have more children" (woman in Doaba).

"Several times I went to the clinic for childspacing medicine, but the doctor does not give me that medicine. I would very much like to practice childspacing" (woman in Thal I).

"I know about childspacing and I like it, but my brother's wife says: don't you use childspacing medicine, you have to give birth to more sons, because you only have one son. If you use childspacing medicine, I will be very angry with you".

"I like to stop having children, but my husband does not allow it" (woman in Thal I camp, who had had 12 pregnancies and 9 living children).

"I have a new marriage, with my brother-in-law, because my husband died 3 years ago. Therefore I want more children".

"I don't believe in childspacing. Children are blessings from God".

"I like childspacing. Many times I told the doctor: please give me some medicine to stop having babies but the doctor says: we don't have medicine for childspacing here" (woman in Dallan camp).

"Childspacing methods are for women who give birth very quickly, every year. But my babies come automatically with 3 years in between" (woman in Kata Kanra).

"I like childspacing, but my husband has gone to Jihad for one or two years, so I don't need it".

"We don't like childspacing. We are afraid of Allah and Mohammad".

"When I am sick, I am allowed to go to the clinic. I am not allowed to go for childspacing treatment".

"I know that you can get medicine to have less children, but I control that myself; then I just do not sleep with my husband".

"I like more children. Maybe after 3 or 4 years I will do childspacing. But why should I not have 2 or 3 more children?"

"I don't want so many children, but I don't know how one can do something about it. I never heard about childspacing before". (mother of 5 living children; one of her children had died).

"My husband has thus far not given permission for childspacing, but I think he will change and I will get permission now. My husband is a good man. I would very much like to stop having children and I hope he does not reject my decision" (woman in Thal II camp).

Appendix 4:

SURVEY QUESTIONNAIRE

QUESTIONNAIRE

CHILD HEALTH AND NUTRITIONAL STATUS, FERTILITY AND MORTALITY

1987

Identification

1. Camp: ____________________

2. Date: ____________________

3. Interviewer's Name: ____________________

4. Cluster No.: ☐☐

5. Compound No.: ☐☐

6. Are there children < 5 years of age? ☐

Yes = 1
No = 2
Unknown = 9

(If no children < 5 years of age, ask:
Is there a married woman between 15 - 49 years of age?
Then go to Section 3: Maternity History, page 8)

SECTION 1

CHILDREN LESS THAN 5 YEARS OLD WHO LIVED ALL OR PART OF THE PAST YEAR.

7. ID. No.: ☐☐

8. Name of child: ____________________

9. Date of birth: ☐☐ ☐☐
month year

10. Sex:

M = 1
F = 2

☐

11. Alive or Dead?

Alive = 1
Dead = 2

☐

If Dead, go to Section 2, page 5.

12. Diarrhea in 7 days prior?

Yes = 1
No = 2
Unknown = 9

☐

13. Mother's action against Diarrhea?

Nothing = 1
Stop food/fluids = 2
Religious Rituals = 3
Household Concoctions = 4
Homemade ORS = 5
Nimkol from package = 6
Unknown = 9

☐

14. Measles in the last year?

Yes = 1
No = 2
Unknown = 9

☐

15. Road-to-Health Card/Immunization record?

Yes = 1 (check visually!) ☐
No = 2
Unknown = 9

If No, why not? ____________________

For children > 1 year of age:

Immunization complete?

Not vaccinated? = 1
Partly vaccinated = 2
Completely vaccinated = 3
Vaccination Status Unknown = 9

16. BCG ☐

17. DPT ☐

18. Polio ☐

19. Measles ☐

20. Visible BCG scar?

Yes = 1 ☐
No = 2
Unknown = 9

21. Mid Arm Circumference?

7.0 - 12.5 cm = 1 ☐
12.5 - 13.5 cm = 2
13.5 - 17.5 cm = 3
Unknown = 9

If 1 or 2, check:

22. Weight for Height?

☐☐☐	☐☐☐☐	☐☐
weight kg	height cm	percent median

(M, <85, <80, <75, <70,)

3. Child's last visit to clinic?

Prior:

0 - 1 week = 1
1 - 2 weeks = 2
3 - 4 weeks = 3
4 - 12 weeks = 4
longer than 12 weeks = 5
Never = 6
Unknown = 9

☐

4. If visit More than 12 weeks ago or Never, why?

Child not sick = 1
Clinic too far = 2
Clinic too busy/ waiting time too long = 3
Prefers traditional treatment = 4
Not enough Purdah in clinic = 5
Doctors do not give enough medicine = 6
Mother does not approve of clinic staff = 7
Other = 8
Unknown = 9

☐

If 8. describe: ______________________________

5. Was this child breastfed?

Yes = 1
No = 2

☐

6. When did the child start getting other foods?

At: 4 - 5 months = 1
5 - 7 months = 2
7 - 9 months = 3
> 9 months = 4
Never yet = 5
Unknown = 9

☐

If 5, write age.

in Days = 1
in Months = 2
in Years = 3

☐ ☐☐

F NECESSARY, REPEAT SECTION 1 FOR OTHER CHILDREN < 5,
IN FOLLOWING PAGES.

SECTION 1

CHILDREN LESS THAN 5 YEARS OLD WHO LIVED ALL OR PART OF THE PAST YEAR.

7. ID. No.: ☐☐

8. Name of child: ____________________

9. Date of birth: ☐☐ ☐☐
month year

10. Sex: ☐

M = 1
F = 2

11. Alive or Dead? ☐

Alive = 1
Dead = 2

If Dead, go to Section 2, page 5.

12. Diarrhea in 7 days prior? ☐

Yes = 1
No = 2
Unknown = 9

13. Mother's action against Diarrhea? ☐

Nothing = 1
Stop food/fluids = 2
Religious Rituals = 3
Household Concoctions = 4
Homemade ORS = 5
Nimkol from package = 6
Unknown = 9

14. Measles in the last year? ☐

Yes = 1
No = 2
Unknown = 9

15. Road-to-Health Card/Immunization record?

Yes = 1 (check visually!)
No = 2
Unknown = 9

☐

If No, why not? ____________________

For children > 1 year of age:

Immunization complete?

Not vaccinated? = 1
Partly vaccinated = 2
Completely vaccinated = 3
Vaccination Status Unknown = 9

16. BCG ☐

17. DPT ☐

18. Polio ☐

19. Measles ☐

20. Visible BCG scar?

Yes = 1
No = 2
Unknown = 9

☐

21. Mid Arm Circumference?

7.0 - 12.5 cm = 1
12.5 - 13.5 cm = 2
13.5 - 17.5 cm = 3
Unknown = 9

☐

If 1 or 2, check:

22. Weight for Height?

☐☐☐ weight kg

☐☐☐☐ height cm

☐☐ percent median

(M, <85, <80, <75, <70,)

3. Child's last visit to clinic?

Prior:

0 - 1 week = 1
1 - 2 weeks = 2
3 - 4 weeks = 3
4 - 12 weeks = 4
longer than 12 weeks = 5
Never = 6
Unknown = 9

☐

4. If visit More than 12 weeks ago or Never, why?

Child not sick = 1
Clinic too far = 2
Clinic too busy/ waiting time too long = 3
Prefers traditional treatment = 4
Not enough Purdah in clinic = 5
Doctors do not give enough medicine = 6
Mother does not approve of clinic staff = 7
Other = 8
Unknown = 9

☐

If 8. describe: ______________________________

25. Was this child breastfed? ☐

Yes = 1
No = 2

26. When did the child start getting other foods?

At: 4 - 5 months = 1
5 - 7 months = 2
7 - 9 months = 3
> 9 months = 4
Never yet = 5
Unknown = 9

☐

If 5, write age. ☐☐☐

in Days = 1
in Months = 2
in Years = 3

IF NECESSARY, REPEAT SECTION 1 FOR OTHER CHILDREN < 5, ON FOLLOWING PAGES.

SECTION 1

CHILDREN LESS THAN 5 YEARS OLD WHO LIVED ALL OR PART OF THE PAST YEAR.

7. ID. No.: ☐☐

8. Name of child: ________________________

9. Date of birth: ☐☐ ☐☐
month year

10. Sex: ☐

M = 1
F = 2

11. Alive or Dead? ☐

Alive = 1
Dead = 2

If Dead, go to Section 2, page 5.

12. Diarrhea in 7 days prior? ☐

Yes = 1
No = 2
Unknown = 9

13. Mother's action against Diarrhea? ☐

Nothing = 1
Stop food/fluids. = 2
Religious Rituals = 3
Household Concoctions = 4
Homemade ORS = 5
Nimkol from package = 6
Unknown = 9

14. Measles in the last year? ☐

Yes = 1
No = 2
Unknown = 9

1. INTRODUCTION

Beginning in 1980, the International Rescue Committee has been providing medical services to the Afghan refugee population in district Kohat of the North West Frontier Province, Pakistan. Approximately 145,000 refugees living in 10 camps are now served by 11 Basic health Units in this area. Over time new initiatives and programs were planned and carried out to respond to the evergrowing needs in the area of health. Record systems in the Basic Health Units came to provide statistics that gave an overview of health service attendance, and of the character of health problems in the refugee camps. However, as much became known about the refugee families that could come to the Basic Health Units, the concern developed that this knowledge did not include those who for numerous socio-cultural reasons, do not have access to Basic Health Unit services. Therefore, in July of 1986 the International Rescue Committee conducted a survey in its area of service, featuring 6 groups of variables:

1) Infant, Neonatal and Child Mortality.
2) Childhood Morbidity from several major diseases.
3) Nutritional Status of children below 5 years of age.
4) BCG scar evidence with children below 5 years of age.
5) Information on Pregnancy and Childbirth.
6) Aspects of Environmental Conditions.

This study followed to a large extent the design of a survey carried out by the United Nations High Commission for Refugees (UNHCR) and the Centers for Disease Control (CDC), which focussed on the entire refugee population. It provided base-line data for the particular area of refugee villages where the IRC operates.

In order to evaluate trends in changes of health status over time, as well as the appropriateness and effectiveness of program response to health problems, a second area specific survey was carried out during the summer of 1987. This time, in view of several outstanding results from the first survey that asked for further investigation, adaptations were made in the survey design before it was implemented:

1) The sample size of the survey was increased from 2.5% to 3.5% to obtain a statistically more significant representation of the population.
2) Immunization coverage was studied through visual checks of Growth Charts and EPI records within each household, besides observation of BCG inocculation scars.
3) The reproductive health of Afghan women was studied through complete pregnancy histories, as well as additional detailed questions.
4) Maternal mortality was assessed in a more thorough way, by decreasing the recall period for respondents, and addition of various detailed questions.

15. Road-to-Health Card/Immunization record?

Yes = 1 (check visually!) ☐
No = 2
Unknown = 9

If No, why not? ____________________

For children > 1 year of age:

Immunization complete?

Not vaccinated? = 1
Partly vaccinated = 2
Completely vaccinated = 3
Vaccination Status Unknown = 9

16. BCG ☐

17. DPT ☐

18. Polio ☐

19. Measles ☐

20. Visible BCG scar?

Yes = 1 ☐
No = 2
Unknown = 9

21. Mid Arm Circumference?

7.0 - 12.5 cm = 1 ☐
12.5 - 13.5 cm. = 2
13.5 - 17.5 cm = 3
Unknown = 9

If 1 or 2, check:

22. Weight for Height?

☐☐☐	☐☐☐☐	☐☐
weight kg	height cm	percent median

(M, < 85, < 80, < 75, < 70,)

23. Child s last visit to clinic?

Prior:

0 - 1 week = 1
1 - 2 weeks = 2
3 - 4 weeks = 3
4 - 12 weeks = 4
longer than 12 weeks = 5
Never = 6
Unknown = 9

☐

24. If visit More than 12 weeks ago or Never, why?

Child not sick = 1
Clinic too far = 2
Clinic too busy/ waiting time too long = 3
Prefers traditional treatment = 4
Not enough Purdah in clinic = 5
Doctors do not give enough medicine = 6
Mother does not approve of clinic staff = 7
Other = 8
Unknown = 9

☐

If 8. describe: ____________________

25. Was this child breastfed?

☐

Yes = 1
No = 2

26. When did the child start getting other foods?

At: 4 - 5 months = 1
5 - 7 months = 2
7 - 9 months = 3
> 9 months = 4
Never yet = 5
Unknown = 9

☐

If 5, write age.

in Days = 1
in Months = 2
in Years = 3

☐ ☐☐

IF NECESSARY, REPEAT SECTION 1 FOR OTHER CHILDREN < 5, ON FOLLOWING PAGES.

ECTION 1

HILDREN LESS THAN 5 YEARS OLD WHO LIVED ALL OR PART OF HE PAST YEAR.

. ID. No.: ☐☐

'. Name of child: ______________________

'. Date of birth: ☐☐ ☐☐
month year

.0. Sex:

M = 1
F = 2

☐

1. Alive or Dead?

Alive = 1
Dead = 2

☐

If Dead, go to Section 2, page 5.

2. Diarrhea in 7 days prior?

Yes = 1
No = 2
Unknown = 9

☐

13. Mother's action against Diarrhea?

Nothing = 1
Stop food/fluids = 2
Religious Rituals = 3
Household Concoctions = 4
Homemade ORS = 5
Nimkol from package = 6
Unknown = 9

☐

14. Measles in the last year?

Yes = 1
No = 2
Unknown = 9

☐

15. Road-to-Health Card/Immunization record?

Yes = 1 (check visually!) ☐
No = 2
Unknown = 9.

If No, why not? ____________________

For children > 1 year of age:

Immunization complete?

Not vaccinated? = 1
Partly vaccinated = 2
Completely vaccinated = 3
Vaccination Status Unknown = 9

16. BCG ☐

17. DPT ☐

18. Polio ☐

19. Measles ☐

20. Visible BCG scar?

Yes = 1 ☐
No = 2
Unknown = 9

21. Mid Arm Circumference?

7.0 - 12.5 cm. = 1 ☐
12.5 - 13.5 cm = 2
13.5 - 17.5 cm = 3
Unknown = 9

If 1 or 2, check:

22. Weight for Height?

☐☐☐ weight kg
☐☐☐☐ height cm
☐☐ percent median

(M, <85, <80, <75, <70,)

23. Child's last visit to clinic?

Prior:

0 - 1 week = 1
1 - 2 weeks = 2
3 - 4 weeks = 3
4 - 12 weeks = 4
longer than 12 weeks = 5
Never = 6
Unknown = 9

☐

24. If visit More than 12 weeks ago or Never, why?

Child not sick = 1
Clinic too far = 2
Clinic too busy/ waiting time too long = 3
Prefers traditional treatment = 4
Not enough Purdah in clinic = 5
Doctors do not give enough medicine = 6
Mother does not approve of clinic staff = 7
Other = 8
Unknown = 9

☐

If 8. describe: ____________________

25. Was this child breastfed?

Yes = 1
No = 2

☐

26. When did the child start getting other foods?

At: 4 - 5 months = 1
5 - 7 months = 2
7 - 9 months = 3
> 9 months = 4
Never yet = 5
Unknown = 9

☐

If 5, write age.

in Days = 1
in Months = 2
in Years = 3

☐ ☐☐

IF NECESSARY, REPEAT SECTION 1 FOR OTHER CHILDREN < 5, ON FOLLOWING PAGES.

SECTION 2

CHILDREN WHO DIED IN PAST YEAR AND WERE LESS THAN 5 YEARS OL
AT THE TIME OF DEATH.

27. Cluster No.: ☐☐

28. Compound No.: ☐☐

29. ID No.: ☐☐

30. Name of child: ______________________________

31. Date of Birth: ☐☐ month ☐☐ year

32. Date of Death: ☐☐ month ☐☐ year

33. Age at Death? ☐ ☐☐

in Days = 1
in Months = 2
in Years = 3

34. Cause of Death according to mother?

(Describe): ______________________________

35. Diarrhea in 7 days prior? ☐

Yes = 1
No = 2
Unknown = 9

36. Measles in 30 days prior?

Yes = 1
No = 2
Unknown = 9

☐

37. Malaria in 2 weeks prior?

Yes = 1
No = 2
Unknown = 9

☐

38. Tuberculosis in one year prior?

Yes = 1
No = 2
Unknown = 9

☐

If Death within 40 days after birth, ask:

39. Did baby suck o.k. initially?

Yes = 1
No = 2
Unknown = 9

☐

40. Did baby stop sucking?

Yes = 1
No = 2
Unknown = 9

☐

41. Did baby have seizures/stiffness?

Yes = 1
No = 2
Unknown = 9

☐

42. Did baby have trouble with opening mouth?

Yes = 1
No = 2
Unknown = 9

☐

For all children:

43. Place of Death?

☐

This camp = 1
Other camp = 2
Afghanistan = 3

44. How long in country prior to Death?

Whole life = 1
6 months = 2
1 year = 3
2 years = 4
3 years = 5
4 years = 6
Unknown = 9

☐

IF NECESSARY:
REPEAT SECTION 1 AND 2 FOR SECOND, THIRD, FOURTH CHILD > 5.

SECTION 2

CHILDREN WHO DIED IN PAST YEAR AND WERE LESS THAN 5 YEARS OLD AT THE TIME OF DEATH.

27. Cluster No.: ☐☐

28. Compound No.: ☐☐

29. ID No.: ☐☐

30. Name of child: ____________________

31. Date of Birth: ☐☐ month ☐☐ year

32. Date of Death: ☐☐ month ☐☐ year

33. Age at Death? ☐ ☐☐

in Days = 1
in Months = 2
in Years = 3

34. Cause of Death according to mother?

(Describe): ______________________________

35. Diarrhea in 7 days prior? ☐

Yes = 1
No = 2
Unknown = 9

36. Measles in 30 days prior?

Yes = 1
No = 2
Unknown = 9

☐

37. Malaria in 2 weeks prior?

Yes = 1
No = 2
Unknown = 9

☐

38. Tuberculosis in one year prior?

Yes = 1
No = 2
Unknown = 9

☐

If Death within 40 days after birth, ask:

39. Did baby suck o.k. initially?

Yes = 1
No = 2
Unknown = 9

☐

40. Did baby stop sucking?

Yes = 1
No = 2
Unknown = 9

☐

41. Did baby have seizures/stiffness?

Yes = 1
No = 2
Unknown = 9

☐

The specific objectives of the 1987 survey were:

- to describe trends in Child Mortality and Morbidity, as compared to 1986 data;
- to measure changes in the Nutritional Status of children below five;
- to study the complete Vaccination Status of children below five;
- to illicit the reproductive health status of women and where possible, outline trends;
- to describe changes in environmental factors since the 1986 survey;
- to formulate initial recommendations in view of the observed changes.

For those interested, an account of the methodology followed in the 1987 survey, has been attached as Appendix 1.
The report which follows relates the findings of this survey and where possible, offers a view on trends that have become evident since the 1986 study.
Some of the studies' findings may not be surprising, but it is hoped that they take us beyond the boundaries of conventional project planning, in that they ask attention for factors affecting health conditions and program activity long after the political situation demands acute relief action. It is also hoped that the results are of interest to all who are in a position of policy formulation or program planning in the health service provision to Afghan refugees.

12. Did baby have trouble with opening mouth?

Yes = 1
No = 2
Unknown = 9

☐

For all children:

13. Place of Death?

☐

This camp = 1
Other camp = 2
Afghanistan = 3

14. How long in country prior to Death?

Whole life = 1
6 months = 2
1 year = 3
2 years = 4
3 years = 5
4 years = 6
Unknown = 9

☐

IF NECESSARY:
REPEAT SECTION 1 AND 2 FOR SECOND, THIRD, FOURTH CHILD > 5

SECTION 3

FOR WOMEN/MOTHERS 15 - 49 YEARS OF AGE

MATERNITY HISTORY

Identification

45. Camp: ______________________________

46. Date: ______________________________

47. Interviewers name: ______________________________

48. Cluster No.: ☐☐

49. Compound No.: ☐☐

50. Date of Birth:

If Unknown, write estimated age: ____________________

51. In what month and year were you married?

☐☐ (month) ☐☐ (year)

52. For how long have you been married?

in Days = 1
in Months = 2
in Years = 3

Unknown = 9

☐ ☐☐

☐

Now I want to ask about all the children you have given birth to.

53. Have you ever given birth to a live child?

Yes = 1 No = 2 ☐

└→(skip to question 60)

54. Do you have any **sons** you have given birth to who are living with you or elsewhere?

Yes = 1 No = 2 ☐

└→(skip to question 57)

55. How many are living with you?

____
(number)

56. How many are living away from you?

____
(number)

57. Do you have any **daughters** you have given birth to who are living with you or elsewhere?

Yes = 1 No = 2 ☐

└→(skip tp question 60).

58. How many are living with you?

____
(number)

59. How many are living away from you?

____
(number)

60. Have you ever given birth to any boy or girl who later died, even if the child lived for only a short time?

Yes = 1

No = 2

→ (skip to question 62)

61. How many of your children have died?

______ (number)

62. Interviewer: sum answers to questions, 55, 56, 58, 59, 60 and 61 and enter total here:

______ (number)

63. Just to make sure, I have this right, you have had

____________ (sum) Live Births. Is that correct?

Yes = 1

No = 2

(probe and correct responses as necessary)

Now I want to ask you some questions about each of your

____________ (sum) births, starting with the first birth you had.

Ask: Questions 64, 65, 66, 67, 68, and 69 for each Live Birth, starting with the first. If twins, use one line for each and connect with a bracket at the left.

Start with the first birth.

64. ID No.	65. Name	66. Boy or Girl?	67. Date of Birth?	68. Is this child still living?	69. If Dead, for how long did the child live?
		Boy = 1 Girl = 2	mnth yr	Yes = 1 No = 2	in Days = 1 in Mnths = 2 in Yrs = 3
01	______	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
02	______	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
03	______	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
04	______	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
05	______	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
06	______	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
07	______	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐

64. ID No.	65. Name	66. Boy or Girl?	67. Date of Birth?	68. Is this child still living?	69. If Dead: for how long did the child live?
		Boy = 1 Girl = 2	mnth yr	Yes = 1 No = 2	in Days = 1 in Mnths = 2 in Yrs = 3
08	______	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
09	______	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
10	______	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
11	______	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
12	______	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
13	______	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐

4. D. ɔ.	65. Name	66. Boy or Girl?	67. Date of Birth?	68. Is this child still living?	69. If Dead: For how long did the child live?
		Boy = 1 Girl = 2	mnth yr	Yes = 1 No = 2	in Days = 1 in Mnths = 2 in Yrs = 3
5	________	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
6	________	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
7	________	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
3	________	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
7	________	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
]	________	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐
	________	☐	☐☐ ☐☐ mnth yr	☐	☐ ☐☐

70 Are you:

currently married = 1
widowed, separated
for less than 6 months = 2
widowed, separated
for more than 6 months = 3

☐

71. Are you pregnant now?

Yes = 1
No = 2
Unknown = 9

☐

72. In what month of pregnancy are you?

____
(month)

73. Would you prefer to have a boy or a girl?

Boy = 1
Girl = 2
Either = 3

☐

Other answer: ____________________________
(specify)

74. Do you have an Antenatal Card?

Yes = 1
No = 2
Unknown = 9

☐

75. TT vaccine up to date? (check!)

Yes = 1
No = 2
Unknown = 9

☐

76. When was your last visit to clinic?

Prior:

0 - 1 week = 1
1 - 2 weeks = 2
3 - 4 weeks = 3
4 - 12 weeks = 4
More than 12 weeks = 5
Never = 6
Unknown = 9

☐

77. If visit was more than 12 weeks than ago, or never, why?

Not sick = 1
Clinic too far = 2
Prefers traditional treatment = 3
Not enough purdah in clinic = 4
Doctors do not give enough medicine = 5
Does not approve of clinic staff = 6
Other = 7
Unknown = 9

☐

If 8, specify: ____________________

78. Have you ever had a pregnancy, even one that lasted just for a short period?

Yes = 1
No = 2

☐

79. How many such pregnancies have you had?

____
(number)

(For each such pregnancy, ask:)

	80.	81.	82.	83.	84.
	In what month and year did your 1st, 2nd etc., pregnancy last?	If Unknown: between or after which live birth did event occur?	How long did pregnancy last?	If 7 mnths or more: did baby show any other sign of life after birth?	If Yes: Was baby a boy or a girl?
	mnth yr unkn.	____	____	Yes = 1 No = 2	Boy = 1 Girl = 2
01	☐☐ ☐☐ mnth yr unkn.	____	____	☐	☐
02	☐☐ ☐☐ mnth yr unkn.	____	____	☐	☐
03	☐☐ ☐☐ mnth yr unkn.	____	____	☐	☐
04	☐☐ ☐☐ mnth yr unkn.	____	____	☐	☐
05	☐☐ ☐☐ mnth yr unkn.	____	____	☐	☐
06	☐☐ ☐☐ mnth yr unkn.	____	____	☐	☐

Interviewer: If any Yes in 83, correct total in 62.

2. CONTENTS OF DATA COLLECTED

To evaluate the nutritional status of children below 5 years of age, the Mid Arm Circumference of each child was determined by means of a Shakir Mid Arm Circumference measuring tape. Each child that appeared moderately or severely malnourished according to the tape measurements, was measured again, this time by means of Weight-for-Height measurements, obtained with a Salter weighing scale, and a standardized portable measuring board. Those children 85 cm or taller were measured in a standing position while those shorter than 85 cm were measured in a recumbent position. Infants less than one year old were neither weighed nor measured. The new measurements were consecutively compared to the WHO/NCHS/CDC international reference standard in order to determine the percent of children within or greater than the reference median, between 80% and 70%, and less than 70% of the median.

Based on recall of the mother, the time of introducing other foods than breast- or bottle milk to their children, was recorded for each child.

As last year, mothers were asked to recall a few common health problems present amongst their children under five during the week, and year, prior to the survey. They were specifically asked whether a child had had Diarrhea and Measles. Diarrhea was defined as more than four watery stools per day for two consecutive days of the prior seven days. For children under five years of age who had died in the preceding 12 months, information collected included age at death; a history of Measles occurring in the month prior to death; of Diarrhea in the seven days prior to death; of Malaria in the 14 days prior to death; and of Tuberculosis in the preceding year. Measles and Malaria are diseases known to the mothers, and their occurrence was as defined by them. Neonatal Tetanus was considered a possible cause of death in any child who died within the first month of life and who (1) sucked normally following birth, (2) stopped sucking, and (3) had trouble opening his/her mouth and/or had seizures. These signs and symptoms were easily recognized and recalled by the mothers whose infants died in the first month following birth.

The immunization status of each child one through four years old, was studied for all children who had vaccination cards from the Basic Health Units or outreach programs. For BCG, DPT, Polio, and Measles inocculations of each child it was recorded whether they were not, partly or fully immunized. To verify BCG vaccinations, both arms of all children were examined for a scar resulting from the BCG vaccine.

85. Who attended your last delivery?

Mother/Relative = 1
Dai = 2
Trained Dai = 3
Other = 4
Nobody = 5
Unknown = 9

☐

If 4, specify: ________________________

86. Was the child at birth alive?

Yes = 1
No = 2
Unknown = 9

☐

87. Did you have any problems before, during or after birth?

Yes = 1
No = 2
Unknown = 9

☐

88. If Yes, what kind of problem?

Prolonged Labor = 1
Post Partum Hemorrhage = 2
Prolapsed Uterus = 3
Retained Placenta = 4
High Blood Pressure = 5
Breech Delivery = 6
Multiple Delivery = 7
Other = 8
Unknown = 9

☐

If 8, describe: ________________________

89. Does family allow you to go to clinic?

Yes = 1
No = 2
Unknown = 9

☐

If No, why not? ________________________

SECTION 4

WOMEN 15 - 49 YEARS OF AGE, WHO DIED IN PAST YEAR DURING CHILDBIRTH OR WITHIN 42 DAYS AFTER DELIVERY.

90. In the last year, did any woman in this compound, die during childbirth or within 42 days after?

Yes = 1
No = 2
Unknown = 9

☐

92. If Yes, how was she related to you?

Sister = 1
Mother = 2
Daughter = 3
Aunt = 4
Niece = 5
Cousin = 6
Sister-in-law = 7
Mother-in-law = 8

☐

93. In the last year, did any **direct relative** of yours die during childbirth for within 42 days after?

Yes = 1
No = 2
Unknown = 9

☐

94. If Yes, how was she related to you?

Sister = 1
Mother = 2
Daughter = 3
Aunt = 4
Niece = 5
Cousin = 6
Sister-in-law = 7
Mother-in-law = 8
Unknown = 9

☐

94. Where did she die?

This camp = 1
Other camp = 2
Afghanistan = 3
Other = 4
Unknown = 9

☐

If 3 or 4, specify: ______________________________

95. How long in this country prior to death?

6 months = 1
1 year = 2
2 years = 3
3 years = 4
4 years = 5
5 years or longer = 6
Unknown = 9

☐

96. Name of woman? ______________________________

97. Date of Death? ☐☐ ☐☐

month year

98. Age at Death?

15 - 20 = 1
20 - 25 = 2
25 - 30 = 3
30 - 35 = 4
35 - 40 = 5
40 - 45 = 6
45 - 50 = 7
Unknown = 9

☐

99. Cause of Death?

Describe: ______________________________

Unknown = 9

☐

SECTION 5

COMPOUND - ENVIRONMENTAL INFORMATION

100. From which source do you get your drinking water?

Stream = 1
Spring = 2
Improved Well = 3
Katcha Well = 4
Faucet water = 5
Unknown = 9

☐

(check yourself!)

101. Do you have an improved latrine?

Yes = 1
No = 2
Unknown = 9

☐

(check yourself!)

102. Do you have a kitchen garden?

Yes = 1
No = 2
Unknown = 9

☐

(If possible, check yourself!)

103. Do you have poultry or livestock?

Yes = 1
No = 2
Unknown = 9

☐

If Yes, what?

chickens, = 1
goats = 2
sheep = 3
cows = 4
donkeys = 5
camels = 6

☐

(If possible, check yourself!)

Appendix 5:

UPDATED CALENDAR OF EVENTS

SECTION A DETERMINING THE YEAR OF BIRTH

EVENTS IN AFGHANISTAN FROM 1979 - 1986

16 September 1979 - Taraki is replaced by Amin.

27 December 1979 - Amin is killed and Babruk Karmal became President.

December 1979. - Soviet Invasion of Afghanistan.

SECTION B DETERMINING THE MONTH OF BIRTH

SEASON CROPS		CALENDER ISLAMIC	WESTERN	FESTIVAL AND LOCAL EVENTS	EXPLANATION	1979	1980	1981	1982	1983	1984	1985	1986	1987
Rice. Cotton Harves	WINTER	Safar-Rabi-Ul-Awwel. Rabi ul-Sani	December January February	Akhri Char-Shamba (Last Wednesday of Safar)	Holy Prophet recovered from illness.	24 Jan	16 Ja	7 Jan	15 Dec	30 Nov	21 Nov	13 Nov	29 Oct	
				Eid Milad-ul-Nabi (12th day of R. Awwel)	Birth & Death of Holy Prophet.	10 Fe	31 Ja	19 Jan	29 Dec	18 Dec	6 Dec	25 Nov	15 Nov	5 Nov
Wheat Harves	SPRING	R.Sani.J-Awwel J.Awwel.J-Sani	March April											
Rice Cotton	SUMMER	J-Sani-Rajab Rajab-Shaban	May June	Shab-e-Meraj	Holy Prophet travelled (spiritually) from Mecca to Jeruslem to the seven Heavens and beyound (paradise) He returned on the same night.	22June	10Jun	2Jun	21 May	10 May	29 April	17 April	6 April	26 March
		Shaban-Ramzan	July	Shab-e-Barat (14th night of Shaban)	God gives food to the people. People's destinies decided.	10July	28Jun	17Jun	7 June	28 May	16 May	5 May	23 April	11 April
				Juma-tul-Wida	Last Friday of Ramazan before Eid.	24 Aug	9Aug	31July	16July	8 July	29 June	14 June	6 Jun	29 May
	MONSOON	Ramzan-Shawwal Ziqad	August September	Eid-ul-Fitar	Eid Marking the end of Ramazan.	25 Aug	13-14 Aug	2-3 Aug	23-24 July	12-13 July	30-1-2 July	20-22 June	9-10 June	5-6 June
Wheat Sowing	AUTUMN	Zil Haj-Moharram Moharram-Safar	October November	Haj	Pilgrimage to Mecca.	31 Oct	19Oct	9Oct	28 Sep	17 Sep	6 Sep	26 Aug	15 Aug	5 Aug
				Eid-ul-Azha (10th Day of Zil Haj)	To commemorate Sacrifice of Ibrahim's son Ismail.	1-2Nov	20Oct	10Oct	29 Sep	18-19 Sep	7,8 & 9 Sep	27-29 Aug	16-17 Aug	7-9 Aug
			December	Ashura	The son and grandson	1 Dec	19Nov	8 Nov	28Oct	16-17	5-6	24 Sept	15	3 Sept

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20. World Bank, World Health Organization, United Nations Fund for Population Activities	"Preventing the tragedy of maternal deaths", conference report, 1987.

International Rescue Committee

HEALTH STATUS OF AFGHAN WOMEN AND CHILDREN:

An assessment of trends in 10 refugee camps

between Hangu and Thal,

North West Frontier Province, Pakistan

To study fertility patterns for women between 15 and 49 years of age in the refugee camps, a complete pregnancy history was taken from each woman, regardless whether she had had children or not (Eligible for interview were all women between 15 and 49 years who were married, separated or widowed).

Information was gathered on the presence of trained or untrained attendance during delivery, as well as on possible problems that occurred during pregnancy, labor and delivery. For pregnant women able to show an Antenatal Card, the vaccination status for Tetanus Toxoid was checked, and for all women reasons for not seeking medical help in the Basic Health Units were studied. All women were asked to recall the deaths of their immediate relatives, who died in the year prior to the survey during childbirth or within 42 days after delivery, to obtain an impression of Maternal Mortality.

Finally, all women were asked to give their opinion about the possibility of childspacing, as well as about the possibility of having skilled personnel assist with home deliveries.

Changes in general living conditions of the refugee families were observed by including 4 environmental questions in the survey. All women were asked what source their drinking water came from; whether they had a ventilated improved pit latrine; whether they had a kitchengarden; and whether they possessed poultry or livestock

3. RESULTS AND DISCUSSION

3.1 Main Outcomes

All 10 camps in the Kohat area that are served by the IRC, were included in the survey: Lakhti Banda, Mohammad Khoja, Kata Kanra, Dallan, Thal I, Kahi, Thal II, Darsamand and Kotki 1 & 2. Within 50 sample sites, **interviews were conducted with 674 women. In total, these women had 997 children below 5 years of age.** Of those children, **19 had died during the preceding 12 months,** and 979 were alive at the time of survey.

The following table provides a comparison of the main data of 1986 and 1987:

Item	IRC Kohat 1986	IRC Kohat 1987
Total number of children < 5 years	888	997
Total number of women	588	674
Number of live births in past year	246	270
Children < 1 year, died in past 12 months	27	19
Infant Mortality Rate confidence limits	87/1000 50-124	52/1000 25-79
Neonatal Mortality Rate confidence limits	21/1000 3-37	22/1000 5-39
Percent of children dying before their fifth birthday	11.8%	10.4%
Percent of children < 5 years with BCG scar	68.7%	79.3%
Diarrhea prevalence among children < 5 years (%)	39.7	27.7
General Fertility Rate	418	400
Total Marital Fertility Rate	n.a.	13.6
Compounds using Improved Water Supply	32%	64.9%
Compounds with Ventilated Improved Pit latrines	43%	46.4%
Compounds with Kitchengardens	35%	36.1%
Compounds with Poultry/Livestock	52%	100%